

AMERICAN RAILROAD JOURNAL

AND GENERAL ADVERTISER

FOR RAILROADS, CANALS, STEAMBOATS, MACHINERY

AND MINES.

ESTABLISHED 1831.



PUBLISHED WEEKLY, AT No. 105 CHESTNUT STREET, PHILADELPHIA, AT FIVE DOLLARS PER ANNUM.

SECOND QUARTO SERIES, VOL. III, No. 37.]

SATURDAY, SEPTEMBER 11, 1847.

[WHOLE No. 588, VOL. XX.

Correspondents will oblige us by sending in their communications by Tuesday morning at latest.

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PUBLISHED AT 105 CHESTNUT ST. PHILADELPHIA.

Saturday, September 11, 1847.

To CONTRACTORS we would say, look at the following Advertisement.

NOTICE TO CONTRACTORS.—ANDROS, COGIN AND KENNEBEC RAILROAD. Proposals will be received at the Treasurer's Office in Waterville, until the 25th of September next, inclusive, for the Grading and Masonry of the 3d Division of this road, extending from East Readfield to Waterville, about 20 miles.

Also, for such sections of the 2d Division as shall not be previously disposed of.

Profiles will be ready for examination on the 20th of September, and any information respecting the line can be obtained on application to the resident Engineers.

On the 24th of September the Engineer will be at Winthrop, and will be prepared to accompany contractors over the line of the road.

HOBART CLARK, Agent A. & K. R. R.
EDWARD APPLETON, Engineer.

Railroad Office Lewiston,
August 25th, 1847.

RAILROAD IRON.—400 TONS ENGLISH. 60-pounds per lineal yard, of best manufacture, and expected to arrive about 1st October by London packets. Apply to

DAVIS, BROOKS & CO.,
68 Broad Street, New York.

FOR SALE.—300 TONS (10 MILES) FLAT Bar Rail, in parcels or wholesale—section 24 inches wide by 1 thick. The Rail has been several years in use, and its quality thoroughly tested—none but perfect bars delivered. Address

I. R. TRIMBLE,
Wilmington, Del.

RAILROAD IRON.—500 TONS OF BEST quality Bridge Rails, 53 pounds to the yard, to arrive, and for sale by

A. & G. RALSTON,
No. 4 South Front Street, Philadelphia.

Also, a 2-hand Locomotive Engine, of Baldwin's make, for sale low.

September 8, 1847.

Suspension Aqueducts.

We learn that the Delaware and Hudson canal company are putting suspension aqueducts over the Delaware and Lackawanna rivers, for the passage of their canal. These aqueducts are to be on the plan of that for the Pennsylvania canal over the Allegheny at Pittsburg; and to be of sufficient capacity for boats to pass each other, with a depth of six feet of water. The piers and abutments are to be put up by the company, in the most substantial manner, and the trunk, with the suspension apparatus, will be put up by Mr. JOHN A. ROEBLING, who constructed the suspension aqueduct over the Allegheny, and the suspension bridge over the Monongahela, rivers, at Pittsburg.

To sustain the great body of water, suspension cables will be used, of 91 inches diameter, manufactured by Mr. Roebling in the same manner as those used at Pittsburg; and these works, when completed, will do credit to the company, which has been singularly fortunate in the selection of able and faithful men for the construction and management of its important works; and thus it is that its stock is one of the very best in the market—or, rather, in the hands of capitalists—as it is too valuable to be often offered for sale.

Great Western (Canada West) Railway Report.

We have before us the Report of CHARLES B. STUART, Esq., Chief Engineer of this very important work.

Mr. Stuart only commenced the surveys for location of this road early last Spring; yet, by the extraordinary efforts of himself and his able assistants, he has, according to his report, explored and surveyed nearly fifteen hundred miles of different lines—located 277 miles—put 42 miles under contract, and advertised one hundred and fifty-nine miles more to be let on the 1st of October next. If Mr. Stuart has performed this service as well as he has done it rapidly—and we doubt not he has—the company have indeed been fortunate in their selection of an engineer. It was supposed by some that the company would employ an engineer from England, as most of the stock is owned there; but we are of the opinion—and so seems the company to have been—that for a comparatively new country, and sparse population, with limited capital, an American engineer will be found the most profitable—or, rather, the least expensive; that is, they can accomplish a given amount of work, in a shorter period, and at

less expense, than those of almost any other country.

We shall re-publish the report nearly entire, with a map showing the connection of the Great Western railway with New York, Boston, Portland and Montreal, on the east, and the railroads through Michigan to Chicago and St. Louis, on the west—and possibly with the other map, showing "Canada West" with its subdivisions, if we can get it printed in time.

This road, it will be recollected, is to be connected with the Niagara Falls and Lockport railroad, by a Suspension Bridge, over the Niagara river at the Falls—thus giving the route an attractive feature, which no other road in the world can possibly have.

Coal Trade of Pennsylvania.

From the following statement it appears that, up to 2d inst., the increase of coal sent to market this, over last, year is 347,463 tons. The increase this year will undoubtedly exceed 500,000 tons, showing a very rapid increase of demand. The editor of the Commercial List says "there is a steady demand for anthracite coal, and prices have advanced, owing to an advance on the 1st inst. of 10 cents per ton in the freight on the Reading railroad. Schuylkill white ash ranges from \$3 90 to \$4 05, and red ash \$4 05 to \$4 25 per ton. In Lehigh coal no change. Three cargoes Allegheny bituminous coal sold at 20 cents per bushel.

The comparative supplies of coal sent to market have been—

	1846. tons.	1847. tons.
Lehigh canal, to Aug 25,	312,791	Aug. 24, 391,264
Reading railroad,	27,759,836	26,948,506
Schuylkill canal,	enlarging,	26,128,210
Del. and Hudson do.	15,159,466	21,211,576
	1,232,093	1,579,556
		1,232,093

Increase in 1847,..... 347,463

The probable supplies from these regions in all this year, with a favorable fall, will be—

By Reading railroad.....	1,300,000 tons.
By Schuylkill canal.....	200,000 "
By Lehigh canal.....	630,000 "
By Delaware and Hudson canal....	410,000 "

Total..... 2,540,000 "

Brought down by Reading railroad, week ending 2d instant, 34,548 tons. Total, since January 1st, 683,064 tons. Shipped by Lehigh canal week end-

ing 31st ult., 90,899 tons. Total this year, 411,164 tons. Shipped by Schuylkill canal, week ending 2d inst., 8,165 tons. Total this season, 136,375 tons.—Total shipments this year by Delaware and Hudson canal, 814,576 tons. Total supply this week, 63,612 tons. Total this year, 1,642,169 tons."

Copper Mine of Falun, in Sweden.

Extracted from Rees' Cyclopaedia, article, Sweden.

"Copper is found in various places in Sweden, but the chief mines of this metal, which are in the province of Dalecarlia, have been wrought from time immemorial. The metal is not found in veins, but in great masses, and does not extend more than an English mile in circumference. The matrix of the ore is the *saxum* of Linnaeus, or rock and pyrites of iron. The richest part of the ore has been supposed to yield 30 per cent of copper; but as the poor and rich are blended, they average only 2 per cent when brought from the mine, and 12 when smelted. The mine is private property, and is divided into shares, 1200 workmen are employed, viz: 600 miners, and the same number in roasting and smelting the ore above ground. The mouth or opening of the mine, says Mr. Cox, is extremely large, perhaps the largest in the world—being 1200 feet in diameter, or nearly three-quarters of an English mile in circumference; an immense chasm, gradually enlarged to its present size by the excavations and frequent downfalls of the rock. The perpendicular depth is 1020 feet."

The foregoing description of the celebrated copper mine in Sweden, has been sent to us by an esteemed friend, with the suggestion that its publication might—in these days of copper mining celebrity—be interesting to our readers; we therefore give it a place in the Journal—with the single remark, that we believe the time is not distant, when copper will be found in such abundance in this country, that its relative value, compared with silver and gold, will be such that *pieces* will be equal to quarter-pound weights—or, in other words, *copper* will be almost as cheap as lead and iron.—[Ed. R. R. J.]

The Iron Trade.

The average quotation for rails on the 13th August, was £9—in London, Welsh and Staffordshire firm, but Scotch pig is a shade lower, though stocks at Glasgow are reported as very small, and a large body of the men still remain out on the strike. In foreign iron and steel nothing new.

Glasgow Pig Iron Trade, August 12.—The price of pig iron has slightly declined since our last—caused, no doubt, by the tightness of the money market; were it not for this, iron would command high rates, as the stock has been greatly reduced lately, through the miners' strike, which still continues.—This week, mixed nos. changed hands to some extent, at 68s. and 67s. 6d., cash; there is very little iron offering. To-day the market is a shade firmer, we quote No. 3 at 67s., mixed nos. 68s., No. 1 69s. and 69s. 6d., cash, free on board.

Coal Trade.

We have been furnished with the following statement of the coal sent to market by the Schuylkill canal—which we shall publish as furnished weekly.

SCHUYLKILL NAVIGATION.—Week ending September 2d, 1847.

	Tons, cwt.
Pottsville and Port Carbon	6,845 09
Schuylkill Haven	1,319 18
Port Clinton	00 00

This week	8,165 07
Previously	128,210 01

Total

Railroad Iron.

From the reports in the papers, which we understand to be correct, it appears that American railroad iron, to be delivered a year or two hence, has been contracted for at \$60 50 per ton, to be delivered on the line of the Central Pennsylvania railroad, by Messrs. DAVID REEVES & Co., of this city. It is said that they contemplate erecting a rolling mill for railroad iron, at, or near, Harrisburg, and thus save, to a great extent, the cost of transporting the *coil*, the *pig* and the *manufactured* article, as the road for which the iron is intended, is to be commenced at Harrisburg, and constructed westward, and thus becoming its own carrier of its own materials.

Harrisburg is an exceedingly favorable point for the manufacture of iron, as the coal and the pig iron can be got there as cheap as at almost any other place in the State; and the facilities for sending away the rails when manufactured, are, or soon will be, equal to those of any other central position.

In the materials for the construction of railroads, Pennsylvania is not surpassed even by England herself—and the time is not distant when those materials will be brought into use to an astonishing extent. The Central road once in operation, the people of Philadelphia will see, and feel, the importance of another line of railroad to Lake Erie, the great outlet of the west.

Railway Time Tables.

An engineer of Paris, named Ybry, says the Mining Journal, has taken out a patent for the construction of a time table in such manner, that by its means, the time necessary for the successive trains to perform the different parts of the journey, can be so regulated as to avoid each other; and the time of extraordinary or express trains, can be quickly laid down, so as not to interfere with the progress of the other trains. It will show at a glance the working of the different trains, giving immediately, without calculation, the time at which each train arrives at and departs from the various stations; the time at which it should be at any part of the journey, and the time that each train stops at each station. A parallelogram is drawn on a sheet of paper, with perpendicular lines, which represent the length of the line, and vertical lines representing time. Knowing the time a train starts, and the time it should arrive at its journey's end, and going on a uniform pace, it is only to lay a T square from one hour in the top line to the arrival hour in the other, and the intermediate times and stations will be all seen at a glance.

Electricity in Leather Bands.

The London Mining Journal says that "In Dr. Silliman's American Journal there is a notice on the above subject, showing a property in leather which we think it is not generally known to possess. In examining the leather bands of a cotton mill, on the sea coast of the State of Maine, they were found to be highly excited. There are several hundred bands in the mill, and those which turn upon wooden drums or pulleys, whereby they are partially insulated, become highly charged. One fixed upon for making most of the experiments was 35 feet long, 9 inches wide, moving 1600 feet per minute, passing round two wooden drums, which revolve upon an iron shaft 180 times per minute; and in clear weather an electric spark may be taken on the knuckle held below the band at 17 inches distance; on presenting the end of the finger, the striking distance is 3 feet; the point of a black pencil shows a distinct brush 4 feet from the band, and a steel point becomes luminous at 7 feet. When the bands are in this

condition, the first processes of the cotton manufacture are attended with serious inconvenience; the fine filaments of the cotton repel each other, causing a deal of waste, and in several instances the whole 'drawing,' as it is termed, has been lifted from the machine to a band 4 feet above it. These difficulties have now been partially removed, by extending a conductor of wire to an iron steam pipe which passes through the rooms, and by emitting jets of steam near those bands that are most highly charged. By presenting a piece of leather 2 feet long, with one edge slightly curved, to the band, a succession of brilliant flashes and jets is immediately produced, giving a very perfect imitation of the aurora light. Other beautiful experiments were entered into, showing the favorable nature of the climate for the development of electricity, which, probably, at no season could be observed in this country."

Pennsylvania the Pioneer in Internal Improvements.

The Coal and Iron Trade of Pennsylvania in 1847.

We continue, in this number, this exceedingly useful and interesting production of Mr. Childs—even at the risk of being deemed *piratical*—as it furnishes a mass of information not conveniently got elsewhere, which should be more widely disseminated.

There are some remarkable facts given in that part relating more particularly to the "Iron Trade." In a somewhat lengthy table, is shown the variations of the price of English merchant bar iron in Liverpool, during a period of *forty-one years*, from 1806 to 1846, both inclusive. The lowest price was £4 10s., in June, 1843—and the highest price was in May, 1806, £17 10s. or a fall of nearly 4 to 1. It is also shown, that in 1803 the *duty* on bar iron was £4 4s. 4d., which was increased from time to time to £6 10s. in 1825, if imported in British ships, or £7 18s. 6d., if in foreign ships. If like causes produce like effects, and we may learn wisdom by experience, it would be well for our legislators to read this little pamphlet; as it appears that when the duties were increased the prices invariably declined, and when they were reduced the prices advanced. It was the settled policy, however, of the government, to impose high duties on iron, until her manufactories were apparently beyond the influence of competition. It is possible, however, and we think probable, also, that the time is not distant when we shall become their competitors in this, as we have in other branches of business.

In considering the advantages which Pennsylvania is to derive from her beds of iron ore, it would be pleasant, did our limits permit, to dwell on the wonderful application of this metal to the purposes of human life.—Still more interesting would it be to notice the rapidity with which the uses of iron multiply, in all parts of the civilized world, as human ingenuity extends its range, and increases the number of its devices. This increase in the use of iron, we suspect, is far beyond the conceptions of those who have not been led to pay particular attention to the subject. Among the important new applications, we may specify the iron vessels, the trial of which has been highly satisfactory; the iron roofs, iron fronts, iron buildings, and fire proof constructions in building, which are adopted to a wonderful extent in some portions of England, and will be very rapidly brought into use in this country; and the iron bridges, railings, vehicles, engines and

utensils, which are everywhere taking the place of the wooden predecessors. Under this head we may indeed place that greatest of all applications of iron—the railroad—because railroads are a comparative novelty in our country.

In 1765, there were shipped by sea from Philadelphia, 822 tons of bar iron, price £26 per ton; and 813 tons of pig iron, price £7 10s. Compare this statement with that given by Mr. Elliot, president of the Schuylkill Navigation company, in his late able report of the 4th instant:—"That the mere increase of the production of this metal, in the valley of the Schuylkill alone, during the last 18 months, exceeds the entire production of all the furnaces of Great Britain, 90 years ago!"

In tracing the history of Pennsylvania iron works, the earliest official information which we find, is contained in "A Statement of the Arts and Manufactures of the United States, prepared in execution of an instruction of ALBERT GALLATIN, Secretary of the Treasury—given by him in obedience to a resolution of Congress of the 19th of March, 1812." This document abounds in just and striking views of the true elements of national prosperity, views worthy of the able financier who was secretary of the treasury under that enlightened and illustrious president—James Madison. This work was prepared by Tench Coxe, Esq.

From this work we learn the number of furnaces in Pennsylvania in 1810, and the amount of their yearly products, as well as their location.

Number of Furnaces in Pennsylvania in 1810.

Locations.	Blast.	Air.	Product, tons.	Value.
Philadelphia co.,	0	2	820	\$71,000
Northampton,	1	0	300	10,500
Chester,	2	0	1,050	42,000
Lancaster,	4	0	4,200	135,400
Dauphin,	1	0	2,790	139,500
Berks,	10	0	4,142	165,760
Mifflin,	1	0	112	3,660
Cumberland,	1	0	2,900	125,000
Franklin,	2	0	1,381	45,785
Huntingdon,	4	0	4,212	112,318
Fayette,	11	0	3,130	178,120
Westmoreland,	3	0	701	78,200
Beaver,	1	0	390	36,900
Butler,	1	0	350	17,500
Allegheny,	2	4	400	40,000
Total,	44	6	26,878½	1,201,343

In order to show the number of furnaces in the United States, and the quantity of pig iron manufactured by the same in 1810, we have made up the following table from the work above referred to:

Number of Furnaces and Yearly Product in 1810.

Furnaces.	Blast.	Air.	Products, tons.	Value.
Maine,	2	2	uncertain.	
Massachusetts,			2,340½	\$154,700
Vermont,	8	2	1,246	122,000
Rhode Island,	9	9	17	3,970
Connecticut,	8	8		46,180
New York,	11	10	21	3,550

New Jersey,	12	5,850	361,052
Pennsylvania,	44	6	26,878½
Maryland,	9	1	10
Virginia,	16	2	13
Ohio,	3	1,187	109,090
Kentucky,	4	4	0
Tennessee,	6	587	98,077

Total, 88 44 154 53,908½ 2,981,277

The character of Philadelphia as a manufacturing city, had even then attracted attention. The document above mentioned makes the following statement, which, taken in connection with its date, is well worthy of special notice:—"The manufactures of the city of Philadelphia (within the strict charter limits of less than two square miles) containing on about 1100 acres of land, 53,722 persons, amount to \$9,347,767." So early, and before our anthracite coal was known, and when our iron trade was in its infancy, did Philadelphia assume the position (which she is destined yet to hold in most conspicuous and undeniable preeminence) of the great manufacturing city of the Union.

By a most remarkable arrangement of Providence, our State, in which such wonderful deposits of coal are found, is also bountifully supplied with iron ore. It is said that there are very few, if any counties, which do not possess some of the ores of this metal; but the proximity of beds of iron ore to the great coal fields, and the abundance of limestone in the same districts, are circumstances of great importance, and indicate clearly the great leading occupation of Pennsylvania. Already one-half of the iron produced in the Union, is produced in this State. The discovery, in 1840, of the method of using anthracite coal, in the reduction of iron ore, was of course the event which completed the full exhibition of our mineral wealth.

In order to show the vast expenditures of the State in furnishing facilities for bringing the iron of our mountains, as well as the coal to the seaboard, and also the trade of the west to this city, we copy the following official statement from a valuable document exhibiting the financial affairs of Pennsylvania, by J. W. Hammond, late chief clerk of the auditor general's office.

Railroads.	Length.	Cost.
Columbia,	82 miles.	\$4,204,969 96
Allegheny Portage,	36 "	1,828,461 35
Total railways,	118 "	6,033,431 31
Canals.		
Eastern Division,	43 miles.	\$1,736,599 42
Juniata "	130 "	3,521,412 21
Western "	105 "	3,069,877 38
Delaware "	60 "	1,381,741 96
Susquehanna div.,	39 "	896,379 52
North Branch "	73 "	1,580,670 87
West Branch "	72 "	1,808,472 10
French Creek "	45 "	795,801 74
Beaver "	25 "	511,671 19
Total,	592 "	15,302,526 39
Unfinished Improvements,		
North Branch Extension,		\$2,184,939 60
West "		352,456 79
Erie "		3,160,566 76

Wisconsin Feeder,	390,013 28
Allegheny "	31,171 56
Gettysburgh railroad,	667,917 61

Total, 7,087,065 60

Recapitulation.

Railroads finished, 118 miles.	\$6,033,431 31
Canals "	592 " 15,302,526 39
Canals unfinished, uncertain.	7,087,065 60
Locomotives and engines, cost,	473,919 97
Exploratory surveys,	111,375 83
Appraisers and canal board,	81,875 88

Total cost, \$29,090,294 98

After surveying this vast expenditure by the State of Pennsylvania, for the development of her own resources, let us call attention, by way of contrast, to the astonishing fact, that the sum of all the appropriations made by the United States government, for the construction and repair of roads, fortifications and harbors, and for the improvement of rivers, from 1806 to 1845, is only \$17,199,223! And then, when we come to add the cost of the improvements constructed in our State by private enterprise, and find the whole amounting up to ninety millions or more, how nobly does Pennsylvania appear, in comparison with even the federal government itself!

Great Britain is the country to which we must look for historical information in regard to the manufacture of iron. The iron trade of Great Britain may be taken as, in some measure, a prospective representation of our own. For this reason, accurate information respecting the progress and present extent of that trade, is of great value in this country, and we are happy to be able to lay before our readers information of such a character, which we have prepared from late important parliamentary documents, and other authentic sources.

The earliest iron works in Britain were in the Forest of Dean, where, says a quaint historian, "abundance of wood is yearly spent." In the reign of Elizabeth, the effect of the iron works in producing a scarcity of timber for ship building was felt; and in 1581, an act was passed requiring that, inasmuch as "the necessary provision of wood doth daily decay and become scant," no new iron works should be erected within twenty-two miles of London, nor within fourteen miles of the river Thames; and a subsequent act ordered that "no timber of the size of one foot at the stub, should be used as fuel at any iron work." In the reigns of James I. and Charles I., attempts were made to smelt iron with pit coals, but without success; and the iron works in many parts were stopped entirely, and in others diminished their operations.

About 1620, Edward Lord Dudley discovered a process for the use of pit coal, and obtained a patent. He erected a furnace, and succeeded in making seven tons of iron per week; but the mob destroyed his works, and defeated his plans, and it was a century before his process came into general use.

A historian writing in the reign of Charles II. says—"Very many measures of ironstone

ore are placed together under the great ten yards thickness of coal, and upon another thickness of coal two yards thick, not yet mentioned, called the bottom coal, or heathern coal, as if God had decreed the time when and how smiths should be supplied, and this island also, with iron; and most especially that this coal and iron stone should give the first and last occasion for the invention of making iron with pit coal. The same writer states that in the twelfth year of James I., there were in England, Scotland, Ireland and Wales, 800 furnaces, forges or iron mills, making iron with charcoal. Of these he reckons 300 to have been blast furnaces, each making 15 tons of pig iron per week, and some 20 tons, working forty weeks in the year; the forges make from three to six tons of bar iron per week.

For want of a supply of fuel, the quantity of iron manufactured in Great Britain steadily decreased, although the demand increased. Recourse was therefore had to foreign countries. From 1710 to 1718, the quantity imported from foreign countries annually, (being chiefly from Sweden and Spain) averaged about 17,000 tons, and the duty upon it about £35,000. As late as 1769, there were imported from Russia alone, 34,000 tons.

The following table shows the number of furnaces, and the make in each county, in the year 1740:

Counties.	Furnaces.	Tons.
Brecon,	2	600
Glamorganshire,	2	400
Carmarthenshire,	1	100
Denbighshire,	2	550
Monmouthshire,	2	900
Cheshire,	3	1,700
Herefordshire,	3	1,350
Gloucestershire,	6	2,850
Hampshire,	1	200
Kent,	4	400
Sussex,	10	1,400
Yorkshire,	6	1,400
Nottinghamshire,	1	200
Derbyshire,	4	800
Warwickshire,	2	700
Worcestershire,	2	700
Salop,	8	2,100
And Staffordshire, only	2	1,000

Total, 59 17,350

It appears, then, that the 300 furnaces before mentioned had now dwindled to 59, making 17,350 tons annually, or not quite 300 tons to each furnace.

In 1760, Mr. John Smeaton put in operation, at the Carron iron works, in Scotland, blowing cylinders, an invention which, by increasing the power of the blast, increased the production of the establishment using it.

In 1775, commenced a new period in the history of the iron manufacture. Mr. Watt's improved steam engine then came into use, for pumping water from the mines, and for blowing furnaces. In 1783, Mr. Cort obtained two patents, one for the process called puddling, and the other for rolling machines. These advantages led to a rapid increase in the manufacture of iron. In 1788 there were in England, Wales and Scotland,

Charcoal furnaces, 26	making 14,500 tons.
Coke furnaces, 59	" 53,800 "
Total, 85	68,300 "

In 1796 there were, in all, 121 furnaces, making 125,079 tons. In 1806, an accurate return was made to parliament which showed the following result:

Coke furnaces, 222	making 250,406 tons.
Charcoal furnaces, 11	" 7,800 "
Total, 233	258,206 "

In 1823 and 1830 returns were made which show a great increase, as compared with 1806.

	1823.	Furnaces.	Tons.	1830.	Furnaces.	Tons.
Staffordshire,	84	133,590	123	212,604		
Shropshire,	38	57,923	48	73,416		
Rest of England,	43	43,728	49	52,252		
Wales, exclusive of North Wales,	72	182,325	113	277,642		
Scotland,	22	24,500	27	37,500		

Total, 259 442,066 360 653,416

Let us now bring these statistics of progress into one table:

1740 furnaces	50	make	17,350 tons.
1788 " 85	"	"	68,300 "
1796 " 121	"	"	125,079 "
1806 " 233	"	"	258,206 "
1823 " 259	"	"	442,066 "
1830 " 260	"	"	653,416 "
1839 " 378	"	"	1,347,790 "
1841 not stated.	"	"	1,387,551 "

It is estimated that the annual manufacture of iron in Great Britain has now reached two millions of tons. In Scotland the manufacture was found to have trebled in six years prior to 1845. At the beginning of June, 1846, there were in blast in Scotland, 95 furnaces; out of blast, 35—making a total of 130. The furnaces in blast at that time produced an average of 110 tons per week each, or at the rate of 543,400 tons a year for all.

The quantity of iron imported into Great Britain in 1839, was 24,360 tons; the most of which came from Sweden.

The British duties on foreign bar iron have been as follows:

	£	s.	d.	per ton.
1782,	2	16	2	per ton.
1797,	3	4	7	"
1802,	3	15	5	"
1805,	5	1	0	"
1806,	5	7	5½	"
1809,	5	9	10	"
1813,	6	9	10	"
1819,	6	10	0	" If im-

port in British ships, and if in foreign do., 7 18 6 per ton.

In 1825 the duty on foreign bar iron was reduced to £1 10s.

It cannot be doubted that the high duties imposed for so long a period on foreign iron had a great influence in promoting the iron manufacture in Great Britain. Exertion was called forth, and ingenuity was stimulated, until this department of business acquired a strength which enabled it to stand against

* Exclusive of North Wales, which for 1823 is estimated at 10,000 tons, and for 1830 at 25,000 tons.

the world. When this position had been attained, and the iron manufacture had risen, under the fostering care of the government, to a point at which it could defy all competition, the restrictive duties were materially reduced.

The hot blast, (one of the most important inventions in the history of the iron manufacture) was first suggested in 1829, by Mr. Neilson, of Glasgow, who took out a patent. This discovery, being found of greater value in Scotland than in England, on account of some peculiarity in the Scotch coal, greatly increased the iron manufacture of that country. A Scotch manufacturer, in writing on the subject, pronounces the hot blast "one of the greatest discoveries in metallurgy of the present age."

In 1838, Mr. Crane, an ironmaster in South Wales, made known to the British Association, that he had succeeded in applying the hot blast to the anthracite coal with complete success! This step in the progress of discovery, opened a new world in Pennsylvania. The news of it made known the great design of our vast anthracite coal deposits.

In connection with the account of the British iron trade, we give the following statement, (which those who are familiar with this subject will regard as a very important one) of the prices of merchant bar iron in Liverpool, for a period of forty-one consecutive years. We invite special attention to this table. It reveals some facts which the advocates of free trade must acknowledge to be remarkable, and for which they may find it difficult to account. It appears that as the duties advanced, prices of iron declined; and that this sequence was invariable. When the manufacture became extensive and independent, the duties were reduced, and prices materially advanced, until they are now nearly double what they were when the duties were at the highest point.

An Account of the Selling Price of English Merchant Bar Iron in Liverpool, from the year 1806 to 1846, both inclusive, as furnished by Messrs. Jevons, Sons & Co.

Year.	Month.	Price per ton.	Year.	Month.	Price per ton.
		£ s. d.			£ s. d.
1806—May,		17 10 0	June,		12 0 0
July,		17 0 0	December		13 0 0
Novem.,		16 0 0	1814—February,		13 10 0
1807—February,		17 0 0	March,		13 0 0
March,		16 10 0	April,		13 10 0
July,		16 0 0	May,		14 0 0
August,		15 10 0	June,		13 15 0
Septem.,		15 0 0	August,		13 10 0
1808—Septem.,		14 10 0	Novem.,		13 5 0
1809—January,		15 10 0	1815—February,		13 10 0
February,		16 0 0	May,		13 0 0
March,		15 0 0	June,		12 10 0
Septem.,		14 10 0	do. 30,		12 0 0
October,		14 5 0	July,		11 10 0
1810—January,		14 10 0	August,		11 0 0
June,		14 5 0	December		11 10 0
Septem.,		14 0 0	1816—March,		11 0 0
October,		15 0 0	April,		10 15 0
1811—August,		14 10 0	June,		10 10 0
Septem.,		14 0 0	July,		10 0 0
1812—May,		13 13 0	August,		9 15 0
June,		13 5 0	September,		9 10 0
July,		13 10 0	October,		9 0 0
Oct. 1st,		13 5 0	do.,		8 15 0
do. 22d,		12 15 0	1817—February,		8 10 0
December		13 0 0	March,		9 10 0
1813—February,		12 10 0	July,		10 10 0
April,		12 5 0	August,		12 0 0

October, 13 0 0	October, 7 15 0
1818—February, 12 15 0	1834—April, 7 12 6
April, 11 15 0	May, 7 0 0
May, 11 5 0	August, 6 12 6
June, 10 15 0	September, 6 10 0
August, 10 0 0	1835—February, 6 7 6
Septem., 11 10 0	March, 6 10 0
December, 12 10 0	June, 6 7 6
1819—May, 11 10 0	August 1st, 6 5 0
June, 11 0 0	do. 31st, 6 10 0
1820—March, 10 10 0	Sept. 16th, 7 0 0
June, 9 10 0	October 1st, 7 10 0
1821—January, 9 0 0	Nov. 30th, 8 0 0
February, 8 15 0	Dec. 8th, 8 5 0
March, 9 10 0	1836—January, 10 10 0
June, 8 15 0	April 26, 11 10 0
August, 8 10 0	July, 11 5 0
1822—January, 8 0 0	October, 11 0 0
June, 8 10 0	Novem., 10 15 0
1823—July, 8 0 0	December, 10 10 0
November, 8 10 0	1837—February, 10 5 0
1824—January, 8 15 0	March, 9 15 0
July, 9 15 0	May, 9 0 0
Septem., 10 0 0	June, 8 10 0
Oct. 4, 11 0 0	July, 7 5 0
do. 18th, 11 10 0	August, 6 15 0
do. 23d, 13 0 0	do. 15th, 7 5 0
Nov. 24th, 12 10 0	do. 19th, 8 0 0
December, 13 0 0	do. 31st, 8 15 0
1825—January, 14 0 0	September, 9 10 0
February, 15 0 0	December, 9 15 0
March, 14 10 0	1838—January, 9 10 0
April, 14 0 0	December, 9 15 0
August, 13 0 0	1839—January, 10 5 0
do. 12 10 0	May, 10 0 0
Septem., 11 10 0	June, 9 15 0
1826—January, 11 0 0	September, 9 10 0
April, 10 10 0	1840—January, 9 0 0
May, 9 10 0	December, 8 0 0
October, 10 0 0	1841—April, 7 15 0
1827—March, 9 10 0	1842—January, 6 10 0
April, 8 15 0	December, 5 5 0
July, 9 10 0	1843—April, 5 0 0
December, 9 5 0	June, 4 10 0
1828—January, 9 0 0	1844—January, 5 0 0
March, 8 15 0	April 18th, 5 10 0
April, 8 10 0	May 1st, 6 6 0
do. 25th, 8 5 0	Oct. 3d, 5 10 0
May, 8 0 0	Dec. 3d, 5 15 0
October, 8 5 0	do. 20th, 6 0 0
December, 7 15 0	1845—January 2, 6 10 0
1829—April, 7 10 0	Feb. 3d, 7 10 0
June, 7 5 0	March 3d, 9 0 0
August, 7 0 0	do. 28th, 10 0 0
October, 6 15 0	May 3, 9 10 0
December, 6 12 0	do. 19th, 9 0 0
1830—March, 6 10 0	June 3d, 8 10 0
June, 6 15 0	August 4th, 7 15 0
October, 6 10 0	Sept. 3d, 8 0 0
November, 6 5 0	do. 18th, 8 5 0
1831—May, 6 2 6	do. 26th, 8 15 0
June, 6 0 0	Nov. 4th, 9 0 0
October, 5 17 6	1846—January, 9 0 0
December, 6 5 0	February, 9 5 0
1832—May, 5 15 0	April, 9 0 0
August, 5 10 0	May, 8 15 0
November, 5 15 0	June, 8 10 0
December, 6 5 0	July, 8 15 0
1833—February, 6 15 0	August, 9 0 0
April, 7 0 0	October, 9 2 6
September, 7 5 0	December, 9 5 0

The following Duties were imposed upon Foreign Iron imported into Great Britain in

1803, on foreign bars, £4 4s. 4d. per ton.
1804, " " 4 17 1 "
1805, " " 5 1 0 "
1806 to 1808, " 5 7 5 1/2 "
1809 to 1812, " 5 9 10 "
1813 to 1818, " 6 9 10 "
1819 to 1825, " 6 10 0 "
imported in British ships,
If in foreign ships, 7 18 6 per ton.

In 1825, Mr. Herries, Chancellor of the Exchequer, proposed a considerable reduction of the duties on forge iron. Mr. Huskisson, President of the Board of Trade, offered the

resolutions for these alterations, which were carried, and the following duties fixed on the 5th January, 1825:

Old duty. Present duty.	
Iron, in bars or unwrought	
per ton, the produce of any British possession,	
& imported from thence, £1 2 2 £0 2 6	
In bars or unwrought, the produce of any other country, per ton,	6 10 0 1 10 0

Before entering upon the Pennsylvania iron trade, we will give place to some miscellaneous information of an interesting, and perhaps curious description, respecting the iron trade of Russia, Sweden, Spain, etc.—which must be new to most of our readers. The works of Scrivenor, and other writers, from which we derive these notices, have been accessible to very few, even among our ironmasters; and we think that the information thus furnished will be highly acceptable in a community so deeply interested in every thing connected with iron and its manufacture.

In Russia, iron ores have been known from time immemorial, but we have no information respecting mining operations in early periods. In 1569, the English obtained, by treaty, the privilege of seeking for and smelting iron ore, on condition that they should teach the Russians the art of working this metal, and pay, on the exportation of every pound, one half penny. Peter the Great himself wrought in the iron works, before he set out, in 1698, on his first journey into foreign countries. Remaining some time in Saxony, he not only made himself acquainted with the arts of mining, but requested the king of Poland to give him some workmen, and in the following year twelve were obtained. In 1719, Lieut. Col. Henning, by order of the emperor, travelled through several countries of Europe, to collect information respecting mines and foundries, and on his return, wire manufactories, forges for steel, etc., were set up.

All iron works erected with the assistance of the crown pay a tax of about six cents on each pood of raw iron, and those without that assistance about four cents. The pood is 36 English pounds. For every forge the owner pays the crown 200 rubles yearly, or about \$184.

The number of people employed in some of the iron works in Russia is astonishing. At the crown mines of Barnaul 48,000 boors are employed. The iron works of the Stroganof family have about them and on the district belonging to the family, 83,000 vassals of the male sex! Many of the private works give rise to villages, which are in size and population like our cities. The Barnaul mines afford some ore which yields from 50 to 60 per cent. of iron. But 25 per cent. is more common. The exports of iron from all the ports of Russia except those of the Caspian, in 1793, were,

Poods. Value in rubles.	
Bar iron,	2,503,757 4,258,228
Sorted,	491,575 901,464
Cast ironware,	37,917 44,433

The ruble is 3s. 1d. sterling, and is divided into 100 copecks.

In 1828 there were in the Russian dominions, 19 foundries, forges and mines belonging to the crown, and 148 establishments belonging to private families. The exports of bar iron from St. Petersburg to America were as follows in the years specified:

1783, poods 6,615	1794, poods 256,635
1785, " 38,618	1797, " 112,200
1792, " 132,380	1804, " 278,264

The exportation of iron from Russia has been upon the decline since 1784.

In 1832 there were exported to the United States, 803,508 poods of bar iron, and in

Bar. Sheet.	
1833, 504,750 poods.	64,234 poods.
1834, 345,080 "	13,186 "
1837, 262,000 "	40,000 "
1838, 270,000 "	36,593 "

Sweden has long been celebrated for its iron. In 1740 there were 496 foundries for making bar iron and other iron manufactures, which produced 40,600 tons. In that year the government established an office to promote the production of iron, by lending money on the ore, even at so low a rate as 4 per ct.

In 1833 there were in Sweden from 330 to 340 smelting furnaces, producing about 90,000 tons of pig iron. The smelting furnaces are licensed for a particular quantity. These licenses are granted by the College of Mines, which has a control over all the iron works and mining operations. The ironmasters make annual returns of their manufacture, which must not exceed their privilege; on pain of the overplus being confiscated.

The iron mine of Dannemora is the most celebrated in Sweden. It has been wrought for four centuries, and still yields abundance of the best iron in Europe. It was first wrought as a silver mine. The annual yield of this mine is about 4000 tons, the whole of which is sent to the house of Messrs. Sykes, in Hull, England, where it is known by the name of the Oreground iron, taking its name from the port at which it is shipped. The first or best mark is L, which sells at £40 per ton; while the best Russian mark, the C. C. N. D., is seldom higher than £20 per ton.

The cause of the superiority of the Dannemora iron has never been explained. Some chemists ascribe it to the presence of manganese. Berzelius attributed it to the presence of the metal of Silicia, while others suppose it to arise from the nature of the process employed.

The exports of iron from Sweden to the U. States from 1830 to 1838 were as follows:

Bars. Other iron.	
1830, 15,532	422
1831, 23,133	683
1832, 20,002	1,223
1833, 20,644	343
1834, 19,618	287
1835, 28,728	476
1836, 27,342	560
1837, 10,700	161
1838, 25,660	585

The total exports in 1838 were 81,754 tons. Spain has iron of excellent quality. It is probably more ductile than any other. But

Spain has never manufactured to any great extent.

An ancient writer (Diodorus Siculus) says—"The Celterberians make weapons and darts in an admirable manner; for they bury plates of iron so long under ground, until the rust hath consumed the weaker part, and so the rest becomes more strong and firm. Of this they make swords and other warlike weapons, and with these arms thus tempered, they so cut through everything in their way, that neither shield, helmet or bone can withstand them."

The quantity of iron sent from Spain to Great Britain from 1711 to 1718, averaged 1560 tons annually. From 1729 to 1735 the average was 1770 tons. After about 1750, the exportation declined, and in 1795 ceased entirely. No iron comes to the United States from Spain.

Improvement in Steel.—An eminent London cutler, Mr. Weiss, has remarked that steel seemed to be much improved when it had become rusty in the earth, and provided the rust was not factitiously produced by the application of acids. He accordingly buried some razor blades for nearly three years, and the result fully corresponded to his expectation. Analogy led to the conclusion that the same might hold good with respect to iron, under similar circumstances. So with perfect confidence in the justness of his views, he purchased, as soon as opportunity offered, all the iron, amounting to 15 tons, with which the piles of the London bridge had been shod. A part of this iron had become extremely and beautifully sonorous, and possessed a degree of toughness quite unapproached by common iron, and was indeed a perfect carburet. It produced steel of a quality infinitely superior to any with which, in the course of his business, Mr. Weiss had met; inasmuch that, while it was in general request among the workmen for tools, they demanded higher wages for working it. About eight tons of the iron was found to be of this quality.—The remainder was inferior, in consequence, as was supposed, of its having been less favorably subjected to the action of the agent producing the change.

To be Continued.

Schuykill Navigation Company.

Continued from page 565.

Canal Navigation, and the Improvements of which it is Susceptible.

A great issue is now to be tried, for the determination of the relative merits of canals and railroads, in the transportation of an almost unlimited amount of heavy freight.

This question has been satisfactorily solved on other lines, in this and in other countries; but the results of experience have been frequently concealed by interest, and there are still those who claim a superiority for the railway in the economical transportation of every description of freight. And popular opinion, at the same time, regarding the railway as an improving machine, destined always to exhibit still happier results, and assuming that canals are, and are forever to remain stationary, has almost anticipated by its decision the result of future contests.

It is not the intention of this Board to underrate the value of the railway system, or to depreciate the visible benefits which it is conferring upon the human race. They are happy to participate in its multiplied advantages, and to witness its influence on the destiny of the world; and they rejoice at the extension of an improvement which is rapidly spreading the bounds of commerce and the area of civilization.

But they must contest the assumption that canals have already reached the limit of possible improvement, and are henceforth to remain stationary.

It is true that the efforts of genius, and the application of unlimited capital, have produced astonishing results on the great lines of modern railways, both in Europe and America; while proprietors of the early canals, discouraged by previous losses, have hesitated to venture more in enterprises of doubtful success, or contented with their ample dividends, have rested satisfied with the imperfect works that yielded them.

The line of railroad from Liverpool to London, 212 miles in length, has cost more than \$230,000 per mile, or altogether about \$50,000,000.

Was it not to be reasonably supposed that such an expenditure of capital, under the guidance of skillful engineers, made in a rich and populous country, and in a highly cultivated age, would produce remarkable results, and seriously impair the profits of a line of adjacent canals of different dimensions, having locks of different lengths and breadths, and all controlled by separate and distinct interests?

These, and most other European canals, were built at an early day, in the infancy of the art, and in the early age of the history of such corporations, before success had shown as in recent times, the power of concentrated capital, controlled by chartered institutions. They are, accordingly, in the lowest degree, imperfect; but yet, imperfect as they are, and impaired as their revenues have been by the loss of their monopoly, they still convey merchandise cheaper, and yield more liberal profits, than the most successful of the railways that now cope with them, or, indeed, the most productive railways in the world.

But let us now suppose that these primitive canals were entirely erased, and their whole trade transferred to the incomparable railways that divide it with them; that in this state of things, a capital of \$50,000,000 were commanded for the construction of such a water communication as might now be made from Liverpool, through Birmingham, to London—a canal 7 or 8 feet deep, and 120 feet wide—walled in from end to end, and completely protected from the waves of steamers—with locks 25 or 26 feet in width, and 300 or 400 feet in length, so arranged with gates as to pass through either a single boat or a steam tug and a train of boats.

Such a canal would accommodate nearly all the light coasting trade of Great Britain; it would pass vessels trading not only between the cities on the route, but it would accommodate the commerce of Ireland; take the

coal and iron from the interior to the sea board, and to the continent, without breaking bulk; admit of towing by steam tugs, with trains of a thousand tons, and be open to the use of steam passenger boats, capable of making a speed of 15 miles per hour.

Such a canal as this would correspond with modern ambition and enterprise, and be somewhat proportioned to the demands of modern commerce.

The ancient canals of England were adapted to the condition of England in a former century, and squared with the views and thoughts of an antecedent age.

Now, it may be fairly put to the common sense of every one to say, whether such a work as is here set forth, established in the present age of art, with all the resources of modern skill, would not show, when compared with the narrow, shallow, irregular and crooked ditches, accommodating boats of twenty tons, drawn by horses, which now successfully compete for heavy freight, with the noblest specimens of railway in the world; that canals also are susceptible of improvement, and may be improved to any extent that the capital supplied may contemplate.

Although the Schuykill navigation, in its present condition, falls short of the work which we have here shadowed out, it is, nevertheless, a work which has been so constructed that it may be brought, from year to year, by a system of judicious repairs and improvements, gradually to approach this state of perfection.

It is, withal, a canal destined for more important traffic, than the midland and light coasting trade of England, and one on which steam may be immediately applied with much success, and on which it will ultimately be applied, almost to the exclusion of all other power.

The views of the Board in the execution of this work have not extended so far, but have been confined, for the time, to the wants of the trade as it is, as well as by considerations of present expediency and economy.

Still, in the reconstruction of this improvement, the application of steam as a moving power, has been kept constantly in view; and it ought, in their opinion, to continue to be the aim of the Board, and, of those on whom the management of the interests of the corporation is hereafter to devolve, to perfect those arrangements. Every dollar expended in future constructions or repairs, should be laid out with an eye to this ultimate object.

The application of steam with good effect, requires, first of all, a wide and deep channel. The mass of water driven forward by the boat, should have ample room to spread, and return into the wake, with the least possible reflux motion.

The velocity of this reflux current, depends on the speed of the boat, and the relation between its cross section and that of the channel. If the boat nearly fill the channel, the water is necessarily forced back, under the pressure of a high head, and with a speed due to that head. The speed of this reflux wave is a current to be stemmed; and the speed of this current is abstracted from the

velocity of the boat due to the action of the engine.

The only means of obtaining relief from this impediment to the application of steam, is to enlarge the channel; and this has been effectually accomplished over the greater part of the line of the Schuylkill navigation.

The whole length of the canal part of this improvement, is about 50 miles, which is composed as follows:—

The distance of which the width is less than 50 feet is.....	2½ miles.
The distance exceeding 50 feet, and less than 60 feet is.....	13½ "
The distance exceeding 60 feet, and less than 70 feet is.....	21 "
The distance exceeding 70 feet, and less than 80 feet is.....	4½ "
The distance exceeding 80 feet, and less than 100 feet is.....	10½ "
The distance exceeding 100 feet, and less than 300 feet is.....	6½ "
The distance consisting of open river is..	50 "

Distance from Fairm't to Port Carbon.. 108½ miles.

Numerous experiments have been tried with a view to the introduction of steam, on many canals in this and other countries; but these have almost uniformly failed, and failed from the same causes—the want of sufficient breadth and depth of channel, in the first place, and the adoption of locks of too contracted dimensions, where the size of the channel itself may have been sufficient.

Almost any one of these unsuccessful boats, if it have the principles of motion within it, placed on the Schuylkill navigation in its present state, will yield satisfactory results, and surprise its disappointed projector.

Nevertheless, it is to be borne in mind, that although the first great step, of opening a capacious canal, and a set of excellent locks, has been accomplished, there is still a wide career of improvement before this company.

The navigation, in its present state, is adapted to the economical conveyance of the present trade—the actual cost of transporting which it should reduce more than one-half; but the trade is now increasing beyond all past example, and will very speedily exceed the capacity of all the present means of conveyance. If the peace of the country be not seriously disturbed, it appears more than probable, that all the lines now leading from the anthracite district to tide water, will soon be found inadequate, in their present condition, to vent the produce of the mines, or supply the increasing demand for coal required by the enterprise of the age, and the activity of commerce.

If we take the production of 1829—the first year in which the trade exceeded 100,000 tons—and add to that quantity 20 per cent, and so continue on from year to year, compounding at the rate of 20 per cent., although the results produced will not correctly represent the trade of each year, they will exhibit correctly the production of 1840, 1842, and 1845, and show that the average increase for the last 17 years has been, and that the present increase continues to be, at the rate of 20 per cent. each year, upon the aggregate production of the previous year.

The same rule applied to the future, will show for the increase of—

1846, - - -	405,000
1847, - - -	485,000
1848, - - -	580,000
1849, - - -	700,000
1850, - - -	840,000

and for the aggregate trade of 1850, nearly 5 000,000 tons.

It is not maintained that this law is hereafter to prevail—for it is not permitted to men to see far into the future—but it is impossible to contemplate the causes now at work, and which are henceforth to contribute to the increase of this trade, and contend for a lower rate than that which correctly represents the past.

The coal and iron trade of Great Britain are essentially the growth of the last sixty years. They have sprung into existence since the introduction of canals, railways, and steam engines; and during a part of that period, the average increase of the coal trade, appears to have been not less than a million of tons per annum. But the advancement of Great Britain in wealth and prosperity, although it has far exceeded that of other trans-atlantic states, has never approached the marvellous strides of this young and prosperous country.

The fact is, that for three successive periods of five years, the anthracite trade of this state has increased at the rate of more than two and-a-quarter fold for each period; and if it continue so to increase during the succeeding five years, reckoned from the close of 1845, the aggregate production in 1850 will not fall much below five millions of tons. (See note 2.)

If this estimate of the future trade, based as it is, upon the past and present, be well founded, there will be an accession to the aggregate production of anthracite in the five years intervening between the close of 1845 and that of 1850, of some three millions of tons; and without meaning to underrate the claims of neighboring districts, it is the opinion of the Board that the country must look to the unrivalled facilities of the Schuylkill, and their boundless capacity for development, to furnish a very large proportion of this quantity.

We have, then—foreseeing our advantages, and the demands which are to be made on them—to prepare diligently for the accommodation of this business; and we must be on the alert, if we hope to keep up with the expansion of the wealth, industry, and consumption of the country.

The navigation, in the condition in which it will be placed on the opening of the spring trade, will be adequate, when fully supplied with boats, to the convenient transit of a million and a half of tons.

Much more can be passed, but this is probably as large a quantity as it would be judicious to force through a set of single locks.

But when a single lock is no longer sufficient, another may be placed along side of it, as has already been done on this canal in its former state.

A double set of large locks, whenever the trade is sufficient to justify their construction, will greatly facilitate and reduce the cost of

conveyance by steam. The steam tug may then enter one chamber, and its tow the adjacent lock, and both may be passed through together. Here will occur a vast saving of time and expense, when 350 tons may be passed onward more expeditiously, and for almost the same cost per mile as 60 tons in 1845.

The line may even now be worked in this way with much facility and economy. One set of the old locks having been generally preserved, steam tugs adapted to their size, but with sufficient power to convey tows of the largest class, may be used in the New York trade with entire success. The tug, with 60 tons aboard, can be passed through the small locks, while the tow, with 180 tons, is descending by the larger chamber.

But even a double set of large locks, though capable of passing some three millions of tons per annum, will scarcely be sufficient, from present appearances, and past results, to vent the trade which must be borne upon this work six or eight years hence, and a further expedient must then be resorted to.

Each of the double locks will, ultimately, have to be *doubled lengthwise*, so that a steam tug and its tender may enter together into the same chamber, lengthened out, and be locked through together as a single boat.

This is probably the highest degree of perfection of which canal navigation is susceptible; an arrangement which presents a channel of ample width and depth, provided with a set of well proportioned double locks, each doubled or trebled lengthwise, capable of navigation by steam tugs, with one or more boats in tow, and of passing the whole train through the locks with no greater delay than the ordinary detention of passing a single boat.

There is scarcely a limit to the capacity of a canal, well supplied with water, for the transmission of freight in this manner, or to the economy of transportation which such a work will authorize.

Five millions of tons may be passed along an improvement of this character, with no greater embarrassment from lockage than was experienced in 1841 in passing 700,000 tons.

The apprehensions entertained by some, that the supply of water will be inadequate, are not well grounded. The only deficiency in the ordinary flow of the river is of limited duration, confined usually to two, or at furthest three months, in the summer and autumn. To meet this contingency, the company have secured reservoir sites which, when improved, will enable them to furnish water, in addition to the ordinary flow of the river, capable of passing from seven hundred thousand to a million of tons, during the season of prevailing drought; and therefore capable of maintaining as great a trade as this company need ever wish to accommodate. These reservoir sites are all admirably located for the purpose, and were selected after careful and extensive surveys, continued through several months, by a competent engineer.

There are many other sites which may be improved, when the necessity for further accommodation approaches. The purchases so

far authorized by the Board have been confined to the few most eligible positions for the purpose.

With an ample supply of water, there is nothing to prevent the consummation of the plan here presented for the ultimate perfection of this work.

It is the enviable fortune of the stockholders of the Schuylkill navigation company to occupy the only position in this country where such an improvement will be soon needed, and to have the ground work of such an improvement already laid, so that, whenever the warning of an overwhelming trade shall call for its development, they may use the surplus means which that trade will furnish, to complete the design.

In the meantime, let it be clearly understood, it is regarded as the true policy of the company, to engage only so far in these ulterior improvements, as may be required in making necessary repairs, or by the pressure of the trade itself, which will always provide for its own accommodation. A resort to the company's credit for the purpose of improvement, beyond what is necessary for the completion of the works in actual progress, is not contemplated, and it is believed will never again be needed.

Of the Facilities now Required by the Trade.

A great revolution has been effected in the coal trade during the last few years, and a still greater is now impending.

During the past year, a work has been constructed which will enable the number of men and horses needed in 1845 to transport 60 tons to market, to take 180 tons, at about the same expense of time, and for but little more than the same expense in money. This is a great stride, which in a single season reduces the cost of freight more than one-half.

But there are inconveniences and embarrassments to which the trade has been long exposed, and the removal of which calls for all the influence this company is capable of exerting.

These embarrassments consists in the unnecessary and vexatious delays to which the boatmen are subject, from the time they reach the landings in the coal region—for want of adequate facilities there—to that of delivering the cargo in New York, or Albany, and at every other point on the route, where a steam tug, or a change of towage is required.

It is true that the increased cost of coal consequent on these delays will be one-half less per ton with the large boats, than it was formerly with the old ones. But still, they are serious drawbacks on the trade, and on the company's prosperity, and call for due exertion to procure their dissipation.

The actual cost of transporting coal by the large class of boats, including hire of the boats, and wages and food of men and horses, will be nearly *four cents per ton per diem* during the time that the boat is manned and equipped, whether it be actually in motion or at rest.

If the voyage to any point and back again to the coal region consume ten days, the cost of freight will be very nearly 40 cents a ton.

But if the voyage which ought to be made

in ten days, in consequence of unnecessary delays and impediments, actually consume fifteen days, the cost of freight will be enhanced about 20 cents a ton, or raised from 40 to 60 cents.

It is the intention, as it is the duty of the Board, as far as lies in their power, to remove all causes of delay not necessarily incident to the trade, and endeavor to smooth the way to the most expeditious and economical mode of conducting the vast traffic which it appears to be the destiny of this improvement to accommodate.

The first step towards carrying out this intention, is obviously the preparation of suitable landings, for transferring the coal with the least possible loss of time and labor, from the cars to the boats. This work is now in progress, and will be urged forward with the utmost rapidity.

To keep the levels well filled, so that the boats may be fully loaded, and to give proper despatch in passing the locks, require a vigilant administration of the line, which it is for the Board to enforce.

Next in importance, is regarded the provision of an efficient system of towage between the Schuylkill and the Delaware, by means of which all boats seeking the work may be passed up and down with little delay, and at the least possible cost, and all vessels trading on the Schuylkill may meet with prompt towage, at low rates.

After reaching the Delaware, the boats can no longer be considered under the eye or control of the company. But it is important, nevertheless, that means should be found to expedite the transit between this city and New York, where the trade meets with numerous and most unnecessary embarrassments.

Finally, it is the hope that by means of proper encouragements—possibly by allowing drawbacks, or abatements of toll in favor of those who make quick trips—a motive may be given to induce despatch at the wharves of New York, and other ports accessible to the Schuylkill boats, where the greatest detention now has place.

The importance of such efforts will be apparent from the fact, that a trip from Pottsville to New York, and back again, which ought to be made in about 12 days, and at a cost, exclusive of toll and towage, of 50 cents a ton, would actually require, according to old experience, 18 or 20 days, and cost, with the new boats, 75 cents a ton.

Taking former experience as a guide, and allowing the usual charges for toll and towage to the Delaware and Raritan canal company, the actual cost of freight from Pottsville to New York, with an adequate supply of large boats, will be about \$1 35 a ton.

This is a great reduction from the prevailing rates of former years; yet by improved arrangements, and holding out strong inducements for despatch, it is hoped materially to reduce this cost, and give greater margin for profits to the boatmen, and further development to the trade.

We have already alluded to the indications which past experience afford of the probable

future consumption of coal in this country. The subject is of primary interest, and we may, therefore, venture still to add some reflections upon the causes which are now at work to extend this consumption.

In estimating the probable growth of this trade, we must, to some extent, endeavor to free our minds from the shackles of old opinions, and the influence of ancient example. We must learn to feel the truth, that we live in an age which bears little resemblance to the past, and the progress of which cannot be safely judged by the history of the past.

This is essentially the age of commerce and of steam—the foundations of which are our coal mines.

In the machine shop and factory—on the railroad and canal—on the rivers and the ocean—it is *steam* that is henceforth to perform the labor, overcome resistance, and vanquish space. And it is not for human intellect to assign a limit to the application of this power, in a country like that which it is our fortunate lot to inhabit—intersected by noble rivers, and penetrated by numerous bays—with an extensive sea board, lined by flourishing cities, and possessing, along with boundless enterprise, all the elements of national wealth.

But, look where we will, the evidence of the truth that we live in an age of which the progress is not to be measured by examples from the history of the past, is prominent before us.

Taking the iron trade as an example, we find that the mere increase of the production of this metal, in the valley of the Schuylkill alone, during the past 18 months, exceeds the entire production of all the furnaces of Great Britain 90 years ago. The manufacture of cotton in Great Britain, which has increased about one hundred fold in the last 70 years, and of the same, and many other articles, as well in Europe as in this country, exhibits results almost equally striking.

There was, in fact, no appreciable iron trade, and, indeed, but little trade at all, in the present ordinary use of that word, anterior to the introduction of the steam engine—an instrument of power, deriving its efficiency almost entirely from coal, which, through its agency, has given birth to modern commerce, to modern enterprise, and a mighty impulse, too, to modern civilization.

A quarter of a century ago—within the memory of almost all here present—those magnificent boats which now give life to the Delaware and Hudson—the seven or eight hundred which traverse the Mississippi—and the thousand which circulate on other waters of this country, had no existence, except, perhaps, in the imaginations of those who were then considered wild and visionary enthusiasts. Now every year brings forth new specimens, each in its turn regarded as the noblest creation of bold invention, and each week presents some new enterprise, by which the Atlantic cities are brought into closer connection with each other, and with foreign ports.

The use of this power on the ocean has but just commenced, yet enough has already

been accomplished to point to an approaching revolution in the coasting trade and foreign commerce of all countries. The next year promises to witness new lines of ocean steamers, connecting this country with England, France, Germany, South America, and traversing the coast from New York to New Orleans.

A quarter of a century ago, and there were not more than a thousand tons of anthracite annually raised and exported in all this Union; now the increase alone is more than a thousand tons per diem, and compounding rapidly upon that.

But still we can form no accurate estimate of the future increase from the past. New elements are daily introduced in the problem, of which no human intellect can determine the value.

The introduction and extension of the railway system over all Europe, and even Asia—over this continent and the West India Islands—over Russia, and even into the Papal states, offer a guarantee of a future consumption of iron and coal, and all the chief mineral products of the earth, to which no bounds can be assigned.

Each railway requires iron for its track, engines, cars, and frequently for its stations. Each new steamer requires coal to drive it—iron for its engine, and sometimes for its hull—and five tons of coal for each ton of iron it consumes.

Every steamboat that is launched, and every road that is forced into the interior, give birth to new enterprise, new wants, and new commerce.

The manufacture of the iron, and the propulsion of the machinery, require coal; the quantity increases with the expansion of the railway system; the system extends the area of civilized population, and consequent agricultural wealth: This wealth needs transportation, and this transportation again needs coal and iron.

In this country, peculiarly, the consumption of this fuel is increasing with the general increase of population where it is used—with the wider area over which it is used—with each new purpose to which it is applied—with the growth of every description of manufacture requiring power—with every new improvement by which the cost of its conveyance is diminished, and with the extension of inland, coast, and ocean navigation.

Looking now first at the present trade—pent up and confined for the want of means of conveyance—and at these obvious causes of a vast future increase—then at the fact that this improvement penetrates the centre of the anthracite district, and will offer unrivalled facilities for direct and cheap conveyance to distant markets, it is the deliberate opinion of the Board, that the demand will not only immediately exceed the quantity needed for the ample remuneration of the company's exertions, but speedily swell to an extent that will require the utmost possible increase of the capacity of their works.

By order of the Board,

CHARLES ELLET, JR.,
President.

NOTES.

Note 1.—There are but three levels on the whole navigation which have not been tested during the season with a depth of 6 feet. The least depth in any one of these three levels was 5 ft. 6 inches. These will all be prepared for 6 feet during the winter, and it is hoped that that depth can soon be permanently maintained throughout.

The increased depth has been obtained in nearly all the pools by raising the dams. In the few cases in which it is to be ultimately obtained by dredging, the dams have only been temporarily raised.

Note 2.—The increase of the anthracite trade for some years to come, appears likely, from these facts, to average not less than 600,000 tons.

If we assume that the Schuylkill navigation company, with all the advantages of their enlarged work, will obtain *but one year's increase* of this trade, at a charge of 60 cents a ton for toll, it will yield them an annual revenue of \$360,000, or 6 per cent. on an investment of \$6,000,000.

The company have resources in their miscellaneous tonnage and rents, sufficient to meet all current and probable contingent expenses.

A.—Statement of the Schuylkill Navigation Company, January 1, 1847, Excluding the Enlargement and Improvement of the Works.

General charges, cost of work.....	\$3,550,259 07
Amount paid for damages.....	153,678 78
Amount paid for real estate, including	
\$12,468 08 sold, not paid for.....	200,864 04
	\$3,904,801 86

Capital stock.....	\$1,665,600 00
Permanent loans (old account).....	1,783,633 37
Bonds payable for damages and real estate.....	20,927 50
Profits disbursed in payment of loans, damages, and new work.....	435,651 99
	\$3,904,801 86

B.—Statement of the Accounts of the Schuylkill Navigation Company for 1846.

Balance of income and expense account, January 1, 1846.....	\$21,067 96
Tolls received, 1846.....	35,879 48
Rents.....	18,733 91
Unclaimed dividends.....	786 60
Interest.....	5,830 72
Convertible loan of 1845, settled for by subscribers in 1845.....	\$547,150
do do 1846.....	744,540
	1,291,690 00
Bonds payable for car account.....	11,000 00
Boat loan settled for in 1845, \$1,800 00	
" " 1846.....	146,361 67
	148,161 67
Bills payable.....	828,580 15
Improvement debt, issued to contractors, 81,300 00	
Individual accounts unsettled.....	37 17
Received for real estate.....	\$5,761 00
Less, disbursed for	
dito.....	\$2,838 13
Less, disbursed for	
damages.....	2,667 30
	5,495 43
	965 57
	\$2,443,252 23

* Boat loan paid off in 1846, \$5,205.

Current expenses for repairs.....	\$3,730 72
" " salaries and wages.....	14,616 85
Interest account.....	128,630 75
State tax.....	2,890 14
Schuylkill navigation company stock.....	500 00
Phoenixville bridge company stock.....	100 00
Loans of the Schuylkill nav. co. held by the president in trust.—Loan of 1837.....	\$78,701 32
Convertible loan of 1844.....	47,719 74
	126,421 06
Bills receivable.....	36,325 24
Cash.....	78,019 50
Car account for 1845.....	\$29,671 95
" " 1846.....	29,366 93
	59,038 88
Boat account for 1845.....	\$10,913 96
" " 1846.....	126,580 46
	137,494 42
Improving and enlarging the works in 1845.....	\$213,470 13
do do 1846.....	846,993 94
	1,060,464 07
Discount on convertible loan in 1845.....	\$109,430 00
do do 1846.....	213,492 50
	322,922 50
Discount on boat loan.....	15,336 67
Expended by S. Griscom, supt., for enlarging the works, not finally settled, \$181,130 16	
Do, by D. D. Lewis, supt., 265,123 66	
Individual acc'ts unsettled, \$10,499 31	
	456,753 33
	\$2,443,252 23

C.—Details of the Liabilities of the Schuylkill Navigation Company on the 1st day of January, 1847.

Capital stock.....	\$1,665,600 00
Loan not convertible, due at various periods.....	1,487,499 30
Convertible loan of 1844, due in 1860, 295,123 07	
" " 1845, due in 1865, 1,300,690 00	
Boat loan.....	148,161 67
Improvement debt (not convertible) due in 1856.....	109,200 00
Bonds for real estate bought, not paid for.....	10,327 50
	5,016,601 54

Less amount of loans held by president in trust.....	126,921 06
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	4,889,680 48
Bills payable.....	843,980 15
	5,733,660 63

Cash on hand.....	\$106,042 83
Bills received.....	16,325 24
	122,368 07

	5,611,292 56
Interest due January 1.....	44,375 24
	\$5,655,667 80

The tonnage of articles descending the river, other than coal, in 1846 was... 76,438 tons.
And the tonnage on articles ascending the river in 1846 was... 32,350 "

NOTE.—The navigation was this year open from Philadelphia to Phoenixville June 29th, from Philadelphia to Reading September 11th, and from Philadelphia to Port Carbon November 16th.

NOTICE TO CONTRACTORS.—GREAT WESTERN RAILWAY, CANADA WEST.

Sealed proposals will be received until the 1st day of next October, at the Office of the Great Western Railway Company, for the Grading and Masonry of the Western Division, extending from London to Windsor, a distance of one hundred and ten miles; also for the branch to Port Sarnia, forty-five miles in length.

Plans and Specifications of the work can be examined at the Engineers' Office, in Hamilton and London, on and after the 15th of September.

C. B. STUART, Engineer.

Hamilton, July 30, 1847.

2m39

DAY, CROSKY & ROSS,
COMMISSION MERCHANTS,
57 THREADNEEDLE STREET, LONDON.
13 ORCHARD PLACE, SOUTHAMPTON.
SHIPPING & COMMISSION AGENTS

PASSENGERS, SPECIE, GOODS, PARCELS, etc.
To all parts of the United States, North and South America, West Indies, India, (overland or otherwise,) Constantinople, Egypt, the Mediterranean, the Peninsula, and all parts of France—via Havre.

Agents at Cowes for the Ocean Steam Navigation of New York.

Persons wishing to transact business with Messrs. D. C. & R., will please apply to the subscriber, who will make cash advances on consignments to their address.

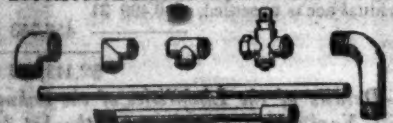
July 31—3m ROBERT GRACIE.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

PASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to 4 in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T. L. and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER PLUM.



Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse 3, E. Corner of Third & Walnut Streets,
PHILADELPHIA.

LAP-WELDED WROUGHT IRON TUBES
for Tubular Boilers, from 14 to 15 inches diameter, and any length not exceeding 17 feet—manufactured by the Caledonian Tube Company, Glasgow, and for sale by

IRVING VAN WART,

13 Platt street, New York.

JOB CUTLER, Patentee.

These Tubes are extensively used by the British Government, and by the principal Engineers and Steam Marine and Railway Companies in the Kingdom.

SPRING STEEL FOR LOCOMOTIVES,
Tenders and Cars. The Subscriber is engaged in manufacturing Spring Steel from 1 1/2 to 6 inches in width, and of any thickness required: large quantities are yearly furnished for railroad purposes, and wherever used, its quality has been approved of. The establishment being large, can execute orders with great promptitude, at reasonable prices, and the quality warranted. Address

JOAN F. WINSLOW, Agent,
Albany Iron and Nail Works,

A. & G. RALSTON & CO., NO. 4
South Front St., Philadelphia, Pa.

Have now on hand, for sale, Railroad Iron, viz: 150 tons 2 1/2 x 1 inch Flat Punched Rails, 30 ft. long.

75 " 3 1/2 x 1 " Flange Iron Rails.
75 " 1 x 1 " Flat Punched Bars for Drafts in Mines. A full assortment of Railroad Spikes, Boat and Ship Spikes. They are prepared to execute orders for every description of Railroad Iron and Fixtures.

THE SUBSCRIBERS ARE PREPARED TO
execute orders at their Phoenix Works for Railroad Iron of any required pattern, equal in quality and finish to the best imported.

REEVES, BUCK & CO.,
Philadelphia.

ROBERT NICHOLS, Agent,
No. 79 Water St., New York.

PATENT RAILROAD, SHIP AND BOAT
Spikes. The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years' successful operation, and now almost universal use in the United States (as well as England, where the subscriber obtained a patent) are found superior to any ever offered in market.

Railroad companies may be supplied with Spikes having countersink heads suitable to holes in iron rails, to any amount and on short notice. Almost all the railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. York will be punctually attended to.

HENRY BURDEN, Agent.

Spikes are kept for sale, at Factory Prices, by L. & J. Townsend, Albany, and the principal iron merchants in Albany and Troy; J. I. Brower, 222 Water St., New York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand.

MANUFACTURE OF PATENT WIRE
Rope and Cables for Inclined Planes, Standing Ship Rigging, Mines, Cranes, Tillers etc., by
JOHN A. ROEBLING, Civil Engineer,
Pittsburgh, Pa.

These Ropes are in successful operation on the planes of the Portage Railroad in Pennsylvania, on the Public Slips, on Ferries and in Mines. The first rope put upon Plane No. 3, Portage Railroad, has now run 4 seasons, and is still in good condition.

FRENCH AND BAIRD'S PATENT SPARK ARRESTER.

TO THOSE INTERESTED IN
Railroads, Railroad Directors and Managers are respectfully invited to examine an improved Spark Arrester recently patented by the undersigned.

Our improved Spark Arrester have been extensively used during the last year on both passenger & freight engines, and have been brought to such a state of perfection that no annoyance from sparks or dust from the chimney of engines on which they are used is experienced.

These Arresters are constructed on an entirely different principle from any heretofore offered to the public. The form is such that a rotary motion is imparted to the heated air smoke and sparks passing through the chimney, and by the centrifugal force thus acquired by the sparks and dust they are separated from the smoke and steam, and thrown into an outer chamber of the chimney through openings near its top, from whence they fall by their own gravity to the bottom of this chamber; the smoke and steam passing off at the top of the chimney, through a capacious and unobstructed passage, thus arresting the sparks without impairing the power of the engine by diminishing the draught or activity of the fire in the furnace.

These chimneys and arresters are simple, durable and neat in appearance. They are now in use on the following roads, to the managers and other officers of which we are at liberty to refer those who may desire to purchase or obtain further information in regard to their merits:

R. L. Stevens, President Camden and Amboy Railroad Company; Richard Peters, Superintendent Georgia Railroad, Augusta, Ga.; G. A. Nicolls, Superintendent Philadelphia, Reading and Pottsville Railroad, Reading, Pa.; W. E. Morris, President Philadelphia, Germantown and Norristown Railroad Company, Philadelphia; E. B. Dudley, President W. and R. Railroad Company, Wilmington, N. C.; Col. James Gadsden, President S. C. and C. Railroad Company, Charleston, S. C.; W. C. Walker, Agent Vicksburg and Jackson Railroad, Vicksburg, Miss.; R. S. Van Rensselaer, Engineer and Sup't Hartford and New Haven Railroad; W. R. McKee, Sup't Lexington and Ohio Railroad, Lexington, Ky.; T. L. Smith, Sup't New Jersey Railroad Trans. Co.; J. Elliott, Sup't Motive Power Philadelphia and Wilmington Railroad, Wilmington, Del.; J. O. Sterna, Sup't Elizabethtown and Somerville Railroad; R. R. Cuyler, President Central Railroad Company, Savannah, Ga.; J. D. Gray, Sup't Macon Railroad, Macon, Ga.; J. H. Cleveland, Sup't Southern Railroad, Monroe, Mich.; M. F. Chittenden, Sup't M. P. Central Railroad, Detroit, Mich.; G. B. Fisk, President Long Island Railroad, Brooklyn.

Orders for these Chimneys and Arresters, addressed to the subscribers, care Messrs. Baldwin & Whitney, of this city or to Hinckly & Drury, Boston, will be promptly executed.

FRENCH & BAIRD.
N. B.—The subscribers will dispose of single rights, or rights for one or more States, on reasonable terms.

Philadelphia, Pa., April 6, 1844.

••• The letters in the figures refer to the article given in the Journal of June, 1844.

PATENT HAMMERED RAILROAD, SHIP
and Boat Spikes. The Albany Iron and Nail Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes, from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscriber at the works, will be promptly executed.

JOHN F. WINSLOW, Agent.
Albany Iron and Nail Works, Troy, N. Y.
The above spikes may be had at factory prices, of Erastus Corning & Co., Albany; Hart & Merriut, New York; J. H. Whitney, do.; E. J. Eting, Philadelphia; Wm. E. Coffin & Co. Boston.

MACHINE WORKS OF ROGERS,
Ketchum & Grosvenor, Paterson, N. J. The undersigned receive orders for the following articles, manufactured by them of the most superior description in every particular. Their works being extensive and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and despatch.

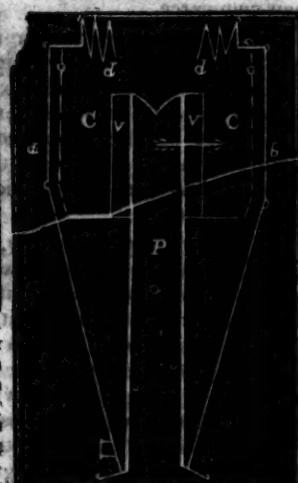
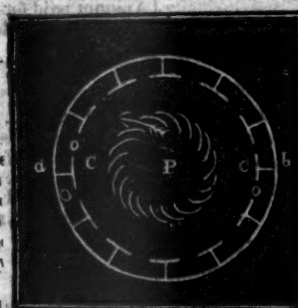
Railroad Work.

Locomotive steam engines and tenders; Driving and other locomotive wheels, axles, springs & flange tires; car wheels of cast iron, from a variety of patterns, and chills; car wheels of cast iron with wrought tires; axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery
of all descriptions and of the most improved patterns, style and workmanship.

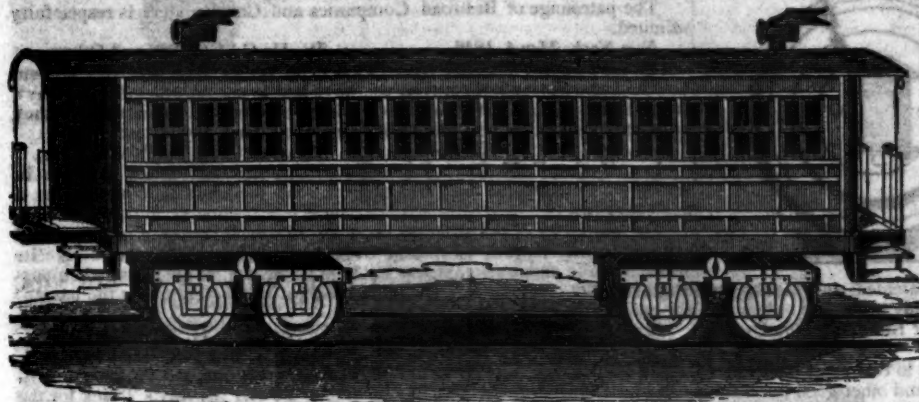
Mill gearing and Millwright work generally; hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Paterson, N. J., or 60 Wall street, N. York.



DAVENPORT & BRIDGES'

CAR WORKS, CAMBRIDGEPORT, MASS.

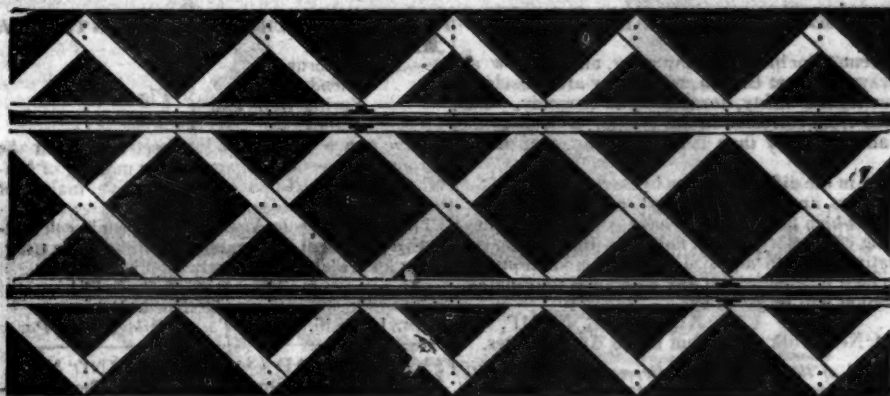


Manufacture to Order, Passenger and Freight Cars of every description, and of the most improved pattern; also furnish Snow Ploughs and Chilled Wheels of any pattern and size. Forged Axles, Springs, Boxes and Bolts for Cars at the lowest prices.

All orders punctually executed and forwarded to any part of the country.

Our Works are within fifteen minutes ride from State street, Boston—Omnibuses pass every fifteen minutes.

THE HERRON RAILWAY TRACK,



As seen stripped of the top ballasting

A GOLD MEDAL AWARDED THE INVENTOR BY THE AMERICAN INSTITUTE.

THE UNDERSIGNED RESPECTFULLY invites the attention of Engineers, and Railroad Companies, to some highly important improvements he has recently made in the Herron system of Railway structure. These improvements enable him to effect a very large reduction in the quantity of Timber, and cost of construction, without impairing the strength of the Track, or its powers of resisting frost, while they secure additional features of excellence in the Drainage and facility of making Repairs.

The above cut represents the "Herron Track" as it is laid on the Philadelphia and Reading, and on the Baltimore and Susquehanna Railroads. The intersection of the sills of the trellis are 5 feet from centre to centre, while in the new construction they are only 2½ feet. This renders the string piece unnecessary, thus removing the only objectionable feature found in the Track.

The result of experience has proved that all Tracks constructed with longitudinal timbers, such as mud sills, and more especially, the continuous bearing string pieces retain the rain water that falls between the Rails which, being thus confined, settles along those timbers, and accumulating in quantity flows rapidly along them on the descending grades, washing out the earth from under the timber, and frequently causing large breaches in the embankments of the road. Whereas all water intercepted by the oblique sills of the trellis, is discharged immediately into the side ditches.

In the 5 foot plan, the Track occupies a Road bed nearly 11 feet wide, while the new construction takes

but 8 feet; the timber being more concentrated under the Rails. A block of hard wood, about 2 feet long and 15 inches wide, is introduced into a square of the trellis for the purpose of giving an additional, and effectual support to the joints of the Rails, which rest upon it. Should these joint blocks become chafed and worn by the working, and imbedding of the chairs, as is now the case on all Railroads, they can be readily replaced without any derangement of the timbers less liable to wear.

The following is a general estimate of its cost near the seaboard. In the interior it will be considerably less.

ESTIMATE OF THE PROBABLE COST OF ONE MILE.	
4,224 Timbers, 11 ft. long, 3 x 6 inches =	
68,696 ft. b.m., at \$10 =	\$686 96
587 Oak joint blocks 2 ft. x 3 x 15 in. =	
4,403 ft. b.m., at \$13 =	57 24
13,000 Spikes = 2,250 lbs. at 4½ cts =	101 25
Workmanship free of patent charge =	600 00

Cost of one mile including the laying of the Rail.....\$1,445 45

He has made other important improvements, which will be shown in properly proportioned models, that give a much better idea of the great strength of the Track than a drawing will do.

Sales of the Patent right to all the distant States will be made on liberal terms.

JAMES HERRON.
Civil Engineer and Patentee.
No. 277 South Tenth St., Philadelphia.

LAP-WELDED WROUGHT IRON TUBES

FOR

TUBULAR BOILERS, FROM 1 1-4 TO 6 INCHES DIAMETER,

and

ANY LENGTH, NOT EXCEEDING 17 FEET.

These Tubes are of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.

THOMAS PROSSER,

Patentee.

1y25

28 Platt street, New York.

RAILROAD IRON.

MOUNT SAVAGE IRON WORKS

THIS Company are prepared to execute orders for RAILROAD IRON, of any pattern, and equal in point of quality to any other manufactured.

Address **J. M. HOWE,**

Pres't. Mt. Savage Iron Works,
Dec. 25, 1y* Maryland.

ENGINEERS' AND SURVEYERS' INSTRUMENTS MADE BY EDMUND DRAPER,

Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street,
1y10 near Third,

below Walnut,
Philadelphia.



THE SUBSCRIBER has on hand a good assortment of his best Leveling and Surveying Instruments, among them his improved Compass for taking angles without the needle—also Bells, suitable for Churches, Railroad Depots, etc.

West Troy, May 12, 1847.

ANDREW MENEELY.

1y*91

PIG AND BLOOM IRON.—THE SUBSCRIBERS are agents for the sale of numerous brands of Charcoal and Anthracite Pig Iron, suitable for Machinery, Railroad Wheels, Chains, Hollowware, etc. Also several brands of the best Puddling Iron, Junfatta Blooms suitable for Wire, Boiler Plate, Axe Iron, Shovels, etc. The attention of those engaged in the manufacture of iron is solicited by

A. WRIGHT & NEPHEW,
Vine St. Wharf, Philadelphia.

RAILROAD IRON.—THE "MONTGOMERY Iron Company," Danville, Pa., is prepared to execute orders for the heavy Rail Bars of any pattern now in use, in this country or in Europe, and equal in every respect in point of quality. Apply to **MURDOCK, LEAVITT & CO.,**

1y48

77 Pine St., New York.

LAWRENCE'S ROSENDALE HYDRAULIC Cement. This cement is warranted equal to any manufactured in this country, and has been pronounced superior to Francis' "Roman." Its value for Aqueducts, Locks, Bridges, Floors and all Masonry exposed to dampness, is well known, as it sets immediately under water, and increases in solidity for years.

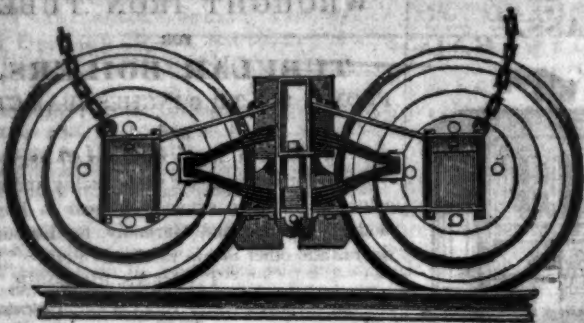
For sale in lots to suit purchasers, in tight papered barrels, by **JOHN W. LAWRENCE,**

143 Front street, New York.

Orders for the above will be received and promptly attended to at this office.

32 1y

RAY'S EQUALIZING RAILWAY TRUCK.—THE SUBSCRIBER having recently formed a business connection in the City of New



York, expressly for the manufacture of the newly patented and highly approved Railroad Truck of Mr. Fowler M. Ray, is ready to receive orders for building the same, from Railroad Companies and Car Builders in the United States, and elsewhere.

The above Truck has now been in use from one to two years on several roads a sufficient length of time to test its durability, and other good qualities, and to satisfy those who have used it, as may be seen by reference to the certificates which follow this notice.

There have been several improvements lately introduced upon the Truck, such as additional springs in the bolster of passenger cars, making them delightful riding cars—adapting it to tenders, trucks forward of the locomotive, and freight cars, which, with its original good qualities, make it in all respects the most desirable truck now offered to the public.

Orders for the above, will, for the present, be executed at the New York Screw Mill, corner 33d street and 3d avenue, (late P. Cooper's rolling mills) and at the Steam Engine Shop of T. F. Secor & Co., foot of 9th street, East

ENGLISH PATENT WIRE ROPES—FOR THE USE OF MINES, RAILWAYS, ETC.—

for sale or imported to order by the subscriber.

These Ropes are manufactured on an entirely different principle from any other, and are now almost exclusively used in the collieries and on the railways in Great Britain, where they are considered to be greatly superior to hempen ones, or iron chains, as regards safety, durability and economy. The plan upon which they are made effectually secures them from corrosion in the interior, as well as the exterior of the rope, and gives a greater compactness and elasticity than is found in any other manufacture.

Many of these ropes have been in constant operation in the different mines in England, and on the Blackwall and other inclined planes, for three and four years, and are still in good condition.

They have been applied to almost every purpose for which hempen ropes have been used—mines, heavy cranes, standing rigging, window cords, lightning conductors, signal halyards, tiller ropes, etc. Reference is made to the annexed statement for the relative strength and size. Testimonials from the most eminent engineers in England can be shown as to their efficiency, and any additional information required respecting the different descriptions and application will be given by

ALFRED L. KEMP,

75 Broad street, New York, sole agent in the United States.

Statement of Trial made at the Woolwich Royal Dock Yard, of the Patent Wire Ropes, as compared with Hempen Ropes and Iron Chains of the same strength.—October, 1841.

WIRE ROPES.			HEMPEN ROPES.			CHAINS.		STRENGTH
Wire gauge number.	Circumference of rope.	Weight per fathom.	Circumference of rope.	Weight per fathom.	Weight per fathom.	Diameter of iron.	Tons.	
	INCH.	LBS. OZ.	INCH.	LBS. OZ.	LBS.	INCH.		
11	4½	13 5	10	24 -	50	15-16	20	
13	3½	9 3	8½	16 -	27	11-16	13½	
14	3¼	6 11	7½	12 8	17	9-16	10½	
15	2½	5 2	6½	9 4	13½	1-2	7½	
16	2¼	4 3	6	8 8	10½	7-16	7	

N.B. The working load, with a perpendicular lift, may be taken at 6 cwt. for every lb. weight per fathom, so that a rope weighing 5 lbs. per fathom would safely lift 3360 lbs., and so on in proportion. 1y24

RAILROAD SCALES.—THE ATTENTION of Railroad Companies is particularly requested to Ellicott's Scales, made for weighing loaded cars in trains, or singly, they have been the inventors, and the first to make platform scales in the United States; supposing that an experience of 20 years has given a knowledge and superior advantage in the business.

The levers of our scales are made of wrought iron, all the bearers and fulcrums are made of the best cast steel, laid on blocks of granite, extending across the pit, the upper part of the scale only being made of wood. E. Ellicott has made the largest Railroad Scale in the world, its extreme length was one hundred and twenty feet, capable of weighing ten loaded cars at a single draft. It was put on the Mine Hill and Schuylkill Haven Railroad.

We are prepared to make scales of any size to weigh from five pounds to two hundred tons.

ELLCOTT & ABBOTT.

Factory, 9th street, near Coates, cor. Melon st.

Office, No. 3 North 5th street,

Philadelphia, Pa.

1y25

NICOLL'S PATENT SAFETY SWITCH for Railroad Turnouts. This invention, for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design.

It acts independently of the main track rails, being laid down, or removed, without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two Castings and two Rails; the latter, even if much worn or used, not objectionable.

Working Models of the Safety Switch may be seen at Messrs. Davenport and Bridges, Cambridgeport, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained on application to the Subscriber, Inventor, and Patentee

G. A. NICOLLS,

Reading, Pa.

ja46

river, (of which firm the subscriber was late a partner) under the immediate supervision of Mr. Ray himself.

Several sets of trucks containing the latest improvements have recently been turned out for the New York and Erie railroad, and the New Jersey Transportation company, which may be seen upon said roads.

The patronage of Railroad Companies and Car Builders is respectfully solicited.

New York, May 4, 1846.

W. H. CALKINS, and Others.

To all whom it may concern:—This is to certify that the New Haven, Hartford and Springfield railroad co., have had in use six sets of F. M. Ray's patent trucks for the last 20 months, during which time it appears to me, they have proved to be the best and most economical truck now in use.

[Signed,]

WILLIAM ROE, Sup't of Power.

I certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Philadelphia and Reading railroad for some time past, under a passenger car.

For simplicity of construction, economy in cost, lightness of material, and extreme ease of motion, I consider it the best truck we have ever used. Its peculiar make also renders it less liable to be thrown off the track, when passing over any obstruction. We intend using it extensively under the passenger and freight cars of the above road.

Reading, Pa., October 6, 1845.

[Signed,] G. A. NICOLL,

Sup't Transportation, etc., Philadelphia and Reading Railroad.

To all whom it may concern:—This is to certify that the N. Jersey Railroad and Transportation company have used Fowler M. Ray's Truck for the last seven months, during which time it has operated to our entire satisfaction. I have no hesitation in saying that it is the simplest and most economical truck now in use.

[Signed,] T. L. SMITH,

Jersey City, November 4, 1845.

N. Jersey Railroad and Transp. Co.

This is to certify that F. M. Ray's Patent Equalizing Railroad Truck has been in use on the Long Island railroad for the last year, under a freight car. For simplicity of construction, economy in cost, lightness of material and ease of motion, I consider it equal to any truck we have in use.

Long Island Railroad Depot,

[Signed,] JOHN LEACH,

Jamaica November 12, 1845.

1y19 Sup' Motive Power

THE SUBSCRIBERS, AGENTS FOR

the sale of
Codorus,
Glendon,
Spring Mill and
Valley, } Pig Iron.

Have now a supply, and respectfully solicit the patronage of persons engaged in the making of Machinery, for which purpose the above makes of Pig Iron are particularly adapted.

They are also sole Agents for Watson's celebrated Fire Bricks and prepared Kaolin or Fire Clay orders for which are promptly supplied.

SAM'L KIMBER, & CO.,

59 North Wharves,

Jan. 14, 1846.

[1y4] Philadelphia, Pa.

TO RAILROAD COMPANIES AND MANUFACTURERS OF RAILROAD MACHINERY.

The subscribers have for sale Am. and English bar iron, of all sizes; English blister, cast, shear and spring steel; Juniata rods; car axles, made of double refined iron; sheet and boiler iron, cut to pattern; tiers for locomotive engines, and other railroad carriage wheels, made from common and double refined B. O. iron; the latter a very superior article. The tires are made by Messrs. Baldwin & Whitney, locomotive engine manufacturers of this city. Orders addressed to them, or to us, will be promptly executed.

When the exact diameter of the wheel is stated in the order, a fit to those wheels is guaranteed, saving to the purchaser the expense of turning them out inside.

THOMAS & EDMUND GEORGE,

445 N. E. cor. 12th and Market sts., Philad., Pa.

RAILROAD IRON.—THE NEW JERSEY

Iron Company, Boonton, N. J., are now making Railroad Bars, and are prepared to execute orders for any required pattern. Apply to

FULLER & BROWN, Agents,

No. 139 Greenwich, corner of Cedar street.

June 1, 1847.

10f

THE SUBSCRIBER IS PREPARED TO

execute at the Trenton Iron Works, orders for Railroad Iron of any required pattern, and warranted equal in every respect in point of quality to the best American or imported Rails. Also on hand and made to order, Bar Iron, Braziers' and Wire Rods, etc., etc.

PETER COOPER 17 Burling Slip.

1y10

New York.

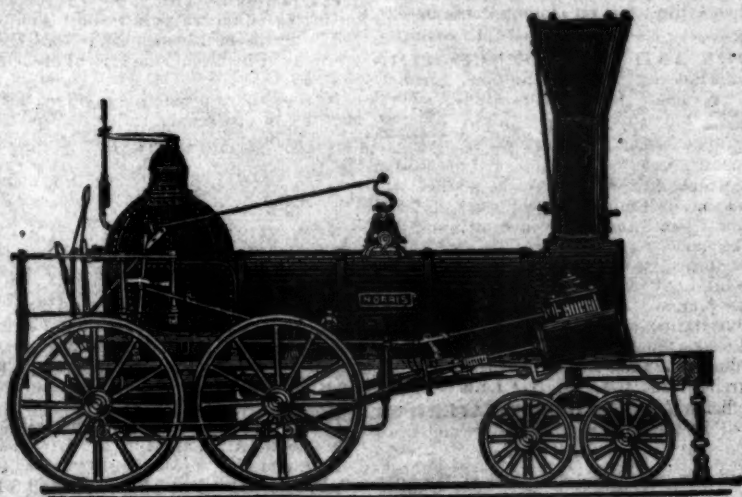
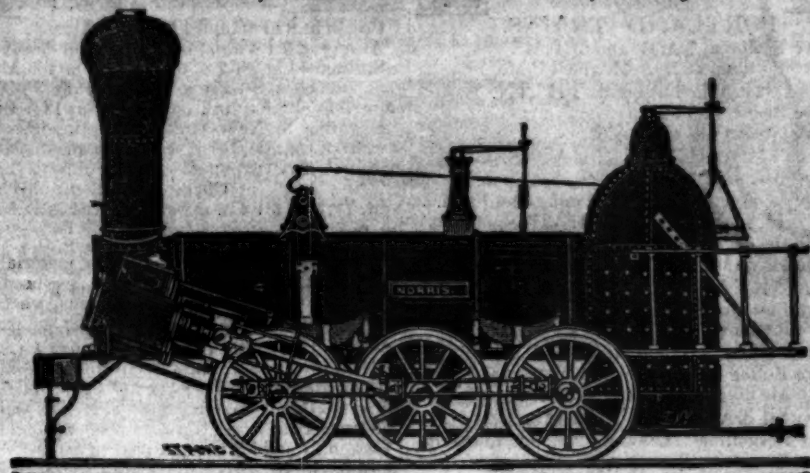
BACK VOLUMES OF THE RAILROAD

JOURNAL for sale at the office, No. 105

Chestnut street.

NORRIS' LOCOMOTIVE WORKS.

BUSH HILL, PHILADELPHIA, Pennsylvania.



MANUFACTURE their Patent 6 Wheel Combined and 8 Wheel Locomotives of the following descriptions, viz:

Class	1,	15 inches	Diameter of	Cylinder, ×	20 inches	Stroke.
"	2,	14	"	"	× 24	"
"	3,	14½	"	"	× 20	"
"	4,	12½	"	"	× 20	"
"	5,	11½	"	"	× 20	"
"	6,	10½	"	"	× 18	"

With Wheels of any dimensions, with their Patent Arrangement for Variable Expansion. Castings of all kinds made to order; and they call attention to their Chilled Wheels for the Trucks of Locomotives, Tenders and Cars.

NORRIS, BROTHERS.

KEARNEY FIRE BRICK. F. W. BRINLEY, Manufacturer, Perth Amboy, N. J. Guaranteed equal to any, either domestic or foreign. Any shape or size made to order. Terms, 4 mos. from delivery of brick on board. Refer to

James P. Allaire, }
Peter Cooper, } New York.
Murdock, Leavitt & Co. }
J. Triplett & Son, Richmond, Va.
J. R. Anderson, Tredegar Iron Works, Richmond, Va.
J. Patton, Jr. }
Colwell & Co. } Philadelphia, Pa.
J. M. L. & W. H. Scovill, Waterbury, Conn.
N. E. Screw Co. }
Eagle Screw Co. } Providence, R. I.
William Parker, Supt. Bost. and Worc. R. R.
New Jersey Malleable Iron Co., Newark N. J.
Gardiner, Harrison & Co. Newark, N. J.
25,000 to 30,000 made weekly.

THE NEWCASTLE MANUFACTURING Company continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack screws, Wrought iron work and Brass and Iron castings, of all kinds connected with Steamboats, Railroads, etc.; Mill Gear- ing of every description; Cast wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention. **ANDREW C. GRAY,** 245 President of the Newcastle Manuf. Co.

RAILROAD IRON AND LOCOMOTIVE Tyres imported to order and constantly on hand by **A. & G. RALSTON** 4 South Front St., Philadelphia.

VALUABLE PROPERTY ON THE MILL Dam For Sale. A lot of land on Gravelly Point, so called, on the Mill Dam, in Roxbury, fronting on and east of Parker street, containing 68,497 square feet, with the following buildings hereon standing.

Main brick building, 120 feet long, by 46 ft wide, two stories high. A machine shop, 47x43 feet, with large engine, face, screw, and other lathes, suitable to do any kind of work.

Pattern shop, 35x32 ft. with lathes, work benches, Work shop, 86x35 feet, on the same floor with the pattern shop.

Forge shop, 118 feet long by 44 feet wide on the ground floor, with two large water wheels, each 16 feet long, 9 ft diameter, with all the gearing, shafts, drums, pulleys, &c., large and small trip hammers, turnaces, forges, rolling mill, with large balance wheel and a large blowing apparatus for the foundry.

Foundry, at end of main brick building, 60x45½ feet two stories high, with a shed part 45½x20 feet, containing a large air furnace, cupola, crane and corn oven.

Store house—a range of buildings for storage, etc., 200 feet long by 20 wide.

Locomotive shop, adjoining main building, fronting on Parker street, 54x25 feet.

Also—A lot of land on the canal, west side of Parker st., containing 6000 feet, with the following buildings thereon standing:

Boiler house 50 feet long by 30 feet wide, two stories.

Blacksmith shop, 49 feet long by 20 feet wide.

For terms, apply to **HENRY ANDREWS**, 49 State st., or to **CURTIS, LEAVENS & CO.**, 106 State st., Boston, or to **A. & G. RALSTON & Co.**, Philadelphia. ja45

TO LOCOMOTIVE AND MARINE ENGINE Boiler Builders. Pascal Iron Works, Philadelphia. Welded Wrought Iron Flues, suitable for Locomotives, Marine and other Steam Engine Boilers, from 2 to 5 inches in diameter. Also, Pipes for Gas, Steam and other purposes; extra strong Tube for Hydraulic Presses; Hollow Pistons for Pumps of Steam Engines, etc. Manufactured and for sale by

MORRIS TASKER & MORRIS, Warehouse S. E. corner 3d and Walnut Sts., Philadelphia. 11f

PATENT INDESTRUCTIBLE WATER Pipes. The subscribers continue to manufacture the above PIPES, of all the sizes and strength required for City or Country use, and would invite individuals or companies to examine its merits.—This pipe, unlike cast iron and lead, imparts neither color, oxide or taste, being formed of strongly riveted sheet iron, and evenly lined on the inside with hydraulic cement. While in the process of laying, it has a thick covering externally of the same—thus forming nature's own conduit of stone. The iron being thoroughly enclosed on both sides with cement, precludes the possibility of rust or decay, and renders the pipe truly indestructible. The prices are less than those of iron or lead. We also manufacture Basins and D. Traps, for Water Closets, on a new principle, which we wish the public to examine at 113 Fulton street, New York. 28tf

J. BALL & CO.

CONNECTION BETWEEN THE BOSTON and Lowell and the Boston and Maine Railroads. On and after April

1st, 1847, passenger trains between these two roads, will run as follows, viz:

Leaving Lowell at 7, 11 1-4 a.m., and 2 1-2, 4 1-2, and 6 1-2 p.m., to connect at the junction in Wilmington with the eastward trains—at 7 a.m. and 2 1-2 p.m. with those to Portland; at 4 1-2 p.m. to Great Falls only, with a detention of 45 minutes at the junction, and at 11 1-4 a.m. and 6 1-2 p.m. to Haverhill only. Leaving the junction in Wilmington, for Lowell, at about 7 1-4 a.m. on arrival of the morning train from Haverhill; at about 9 a.m., on arrival of the morning trains from Great Falls. At about 11 3-4 a.m., on arrival of the morning train from Portland. At about 5 p.m. on arrival of the afternoon trains from Haverhill. At about 7 1-4 p.m., on arrival of the afternoon train from Portland. **WALDO HIGGINSON, Agent.**

WESTERN RAILROAD.—ON AND AF-

Wter Monday, April 5, 1847, the passenger trains will leave daily, Sundays excepted, as follows:

Boston at 8 a. m. and 4 p. m. for Albany.
Albany at 7 1-4 a. m. and 5 p. m. for Boston.

Springfield at 8 1-2 a. m. and 1 p. m. for Albany.
Springfield at 8 1-2 a. m. and 1 1-2 and 3 p. m. (or

Day line to New York, via Springfield.—The

steamboat train leaves Boston at 6 a. m., and arrives in New York at 7 p. m., by the steamboats Traveler, New York or Champlain. Returning leaves

New York at 6 1-4 a. m., and arrives in Boston at 7 p. m.

Night line to New York.—Leaves Boston at 4 p. m., and arrives in New York at 5 a. m.

Albany and Troy.—Leave Boston at 8 a. m.,
Springfield at 1 p. m., and arrive in Albany at 6 p.

m.; or, leave Boston at 4 p.m., Springfield next morning at 8 1-2, and arrive in Albany at 1 1-2 p.m.

The Troy trains connect at Greenbush. The trains for Buffalo leave at 7½ a.m. and 7 p.m. For Northampton, Greenfield, etc. The trains of

the Connecticut River Railroad leave Springfield at 6 1-4 a m., 1 and 3 p m., and passengers proceed di-

directly on to Brattleboro', Windsor, Bellows Falls, Walpole, Hanover, Haverhill, etc.

For Hartford.—The trains leave Springfield on the arrival of the trains from Boston.

The trains of Pittsfield and North Adams Railroad leave Pittsfield on the arrival of the trains from

N. B.—No responsibility assumed for any baggage by the passenger trains, except for wearing

gage by the passenger trains, except for wearing apparel not exceeding the value of fifty dollars, unless by special agreement.

JAMES BARNES, Sup't and Eng'r.
C. A. SEAD, Agent, 27 State street, Boston.

NEW YORK AND ERIE RAILROAD LINE
SUMMER ARRANGEMENTS—Express

IN SUMMER ARRANGEMENT. For passengers, twice each way daily,

York from the foot of Duane St. at 7 o'clock, A. M.

and at 4 o'clock, P. M. by steamboat, for Piermont, thence by cars to Ramapo, Monroe, Chester, Goshen, Middletown, Otisville and the intermediate

The return trains for New York will leave Otis-

The return trains for New York will leave Otisville at 6 30, A. M. and 4 15, P. M.; Middletown at 7 A. M. and 4 40, P. M.; Goshen at 7 22, A. M. and

5 3, P. M.; Chester at 7 35, A. M. and 5 18, P. M.
Fare between New York and Otisville, \$1 50:

FOR MILK—Leave Otisville at 5½ o'clock, morn-

FOR FREIGHT—The barges "Samuel Marsh and
"Henry S. Smith" will leave New York (from

Henry Suydam, Jr., will leave New York (from the foot of Duane St.) at 5 o'clock, P. M. daily (except Sundays.)

No freight will be received in New York after 5 o'clock, P. M.

Freight for New York will be taken by the trains leaving Otisville at 10½ o'clock, A. M.; Middletown

at 11½, A. M.; Goshen at 12½, P. M.; Chester at 1 o'clock, P. M., etc., etc.

For farther particulars, apply to J. F. CLARKSON, Agent, corner of Duane and West Sts., New York.

York, or to S. S. POST, Superintendent Transportation, Piermont.

GREAT SOUTHERN MAIL LINE! VIA

Washington city, Richmond, Petersburg, Weldon and Charleston, S. C., direct to New Orleans. The only Line which carries the Great Southern

The Only Line which carries the Great Southern Mail, and Twenty-four Hours in advance of Bay Line, leaving Baltimore same day.

Passengers leaving New York at 4½ P.M., Philadelphia at 10 P.M., and Baltimore at 6½ A.M., pro-

ceed without delay at any point, by this line, reaching Richmond in *eleven*, Petersburg in *thirteen* and

a half hours, and Charleston, S. C., in two days from Baltimore.

Fare from Baltimore to Charleston.....	\$21 00
" " " Richmond.....	6 60

For Tickets or further information apply at the

For Ticket, or further information, apply at the
Southern Ticket Office, adjoining the Washington
Railroad Office, Pratt street, Baltimore to

STOCTON & FALLS, Agents.

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11

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

LITTLE MIAMI RAILROAD.—OPEN TO SPRINGFIELD.—Distance 84 miles.

connecting at Xenia and Springfield with Messrs. Neil, Moore, & Co's. daily daylight lines of stages going east and north, to Columbus, Zanesville, Wheeling, Cleveland, and Sandusky City via Urbana, Bellefontaine, Kenton, and the Mad river and lake Erie railroad, or Columbus, Delaware, and the Mansfield and Sandusky City railroad—forming, by these connections, the cheapest and most expeditious route to Buffalo, Niagara Falls, Rochester, Albany, New York, and Boston.

On and after Thursday, August 13, 1846, until further notice, a Passenger train will run as follows: Leave Cincinnati daily at 9 A. M., for Milford, Foster's Crossing, Deerfield, Morrow, Fort Ancient, Freeport, Waynesville, Spring Valley, Xenia, Old Town, Yellow Springs, and Springfield.

Returning, will leave Springfield at 4 hours 35 minutes A. M. A line of Hacks runs in connection with the Cars, between Deerfield and Lebanon.

FARE—From Cincinnati to Lebanon.....\$1 00
 " " " " Xenia.....1 50
 " " " " Springfield... 2 00
 " " " " Columbus... 4 00
 " " " " Sandusky city 8 00

The Passenger trains runs in connection with Strader & Gorman's line of Mail Packets to Louisville.

Tickets can be procured at the Broadway Hotel, Dennison House, or at the Depot of the Company on East Front street.

Further information and through tickets for the Stage lines, may be procured at P. Campbell, Agent on Front street, near Broadway.

The company will not be responsible for baggage beyond 50 dollars in value, unless the same is returned to the conductor or agent, and freight paid at of a passage for every \$500 in value over that amount.

The 11 P. M. train from Cincinnati, and the 2 40 P. M. train from Xenia, will be discontinued on and after Monday, the 10th inst.

A freight train will run daily.

W. H. CLEMENT, Supt.

PATERSON RAILROAD

Summer Arrangement.

Commencing April 20th, 1847, the cars will leave

Paterson at New York at
 8 o'clock a.m. 9 1/2 o'clock a.m.
 11 1/2 o'clock a.m. 12 1/4 o'clock p.m.
 4 o'clock p.m. 5 1/2 o'clock p.m.

On Sunday.
 8 o'clock a.m. 9 1/2 o'clock a.m.
 4 o'clock p.m. 5 1/2 o'clock p.m.

Office 75 Courtlandt St.

BALTIMORE AND OHIO RAILROAD.

MAIN STEM. The Train carrying the

Great Western Mail leaves Bal-

timore every morning at 7 1/2 and

Cumerciand at 8 o'clock, passing Ellicott's Mills,

Frederick, Harpers Ferry, Martinsburgh and Han-

cock, connecting daily each way with the Wash-

ington Trains at the Relay House seven miles

from Baltimore, with the Winchester Trains at

Harpers Ferry—with the various railroad and

steamboat lines between Baltimore and Philadelphia

and with the lines of Post Coaches between Cum-

berland and Wheeling and the fine Steamboats on

the Monongahela Slack Water between Browns-

ville and Pittsburgh. Time of arrival at both Cum-

berland and Baltimore 5 1/2 P. M. Fare between

those points \$7, and 4 cents per mile for less distan-

ces. Fare through to Wheeling \$11 and time about

36 hours, to Pittsburgh \$10, and time about 32 hours.

Through tickets from Philadelphia to Wheeling

\$13, to Pittsburgh \$12. Extra train daily except

Sundays from Baltimore to Frederick at 4 P. M.,

and from Frederick to Baltimore at 8 A. M.

WASHINGTON BRANCH.

Daily trains at 9 A. M. and 5 P. M. and 12 a

night from Baltimore and at 6 A. M. and 5 1/2 P. M.

from Washington; connecting daily with the lines

North, South and West, at Baltimore, Washington

and the Relay house. Fare \$1 60 through between

Baltimore and Washington, in either direction, 4

cents per mile for intermediate distances. al3yl

BALTIMORE AND SUSQUEHANNA

Railroad.—Reduction of Fare. Morning and

Afternoon Trains between Balti-

more and York.—The Passenger

trains run daily, except Sunday, as follows:

Leaves Baltimore at.....9 a.m. and 3 1/2 p.m.

Arrives at.....9 a.m. and 6 1/2 p.m.

Leaves York at.....5 a.m. and 3 p.m.

Arrives at.....12 1/2 p.m. and 8 p.m.

Leaves York for Columbia at.....1 1/2 p.m. and 8 a.m.

Leaves Columbia for York at.....8 a.m. and 2 p.m.

FARE.

Fare to York.....\$1 50

" Wrightsville.....2 00

" Columbia.....2 12 1/2

Way points in proportion.

PITTSBURG, GETTYSBURG AND

HARRISBURG.

Through tickets to Pittsburg via stage to Har-

risburg.....\$9

Or via Lancaster by railroad.....10

Through tickets to Harrisburg or Gettysburg... 3

In connection with the afternoon train at 3 1/2 o'clock,

a horse car is run to Green Spring and Owning's

Mill, arriving at the Mills at.....5 1/2 p.m.

Returning, leaves Owning's Mills at.....7 a.m.

D. C. H. BORDLEY, Supt.

31 ly Ticket Office, 63 North st.

LEXINGTON AND OHIO RAILROAD.

Trains leave Lexington for Frankfort daily,

at 5 o'clock a.m., and 2 p.m.

Trains leave Frankfort for Lex-

ington daily, at 8 o'clock a.m. and 2 p.m. Dis-

tance, 28 miles. Fare \$1 25.

On Sunday but one train, 5 o'clock a.m. from

Lexington, and 2 o'clock p.m. from Frankfort.

The winter arrangement (after 15th September to

15th March) is 6 o'clock a.m. from Lexington, and

ma. 9. from Frankfort, other hours as above. 35ly

CENTRAL AND MACON AND WEST-

ERN RAILROADS, Ga.—These Roads with the

Western and Atlantic Railroad

of the State of Georgia, form a

continuous line from Savannah to Oothcaloga, Ga.,

of 371 miles, viz:

Savannah to Macon—Central Railroad.....190

Macon to Atlanta—Macon and Western.....101

Atlanta to Oothcaloga—Western and Atlantic... 80

Goods will be carried from Savannah to Atlanta

and Oothcaloga, at the following rates, viz:

On Weight Goods—Sugar, Coffee, Liquor, Bagging, Rope,

Butter, Cheese, Tobacco,

Leather, Hides, Cotton

Yarns, Copper, Tin, Bar &

Sheet Iron, Hollow Ware &

Castings.....\$0 50

Flour, Rice, Bacon in Casks

or boxes, Pork, Beef, Fish,

Lard, Tallow, Beeswax, Mill

Gearing, Pig Iron and Grind

Stones.....0 50

On Measurement Goods—Boxes

of Hats, Bonnets and Fur-

niture, per cubic foot.....0 20

Boxes and Bales of Dry Goods,

Saddlery, Glass, Paints,

Drugs and Confectionary,

per cubic foot.....0 20 pr. 100lbs. 35

Crockery, per cubic foot.....0 15

Molasses and Oil, per hhd.,

(smallercasks in proportion) 9 00

Ploughs, (large,) Cultivators,

Corn Shellers, and Straw

Cutters, each.....1 25

Ploughs, (small,) and Wheel-

barrows.....0 80

Salt, per Liverpool Sack.... 0 70

Passage—Savannah to Atlanta, \$10; Children,

under 12 years of age, half price,

Savannah to Macon, \$7.

Goods consigned to the subscriber will be for-

warded free of Commissions.

Freight may be paid at Savannah, Atlanta

or Oothcaloga.

F. WINTER, Forwarding Agent, C. R. R.

Savannah, Aug. 15th, 1846. ly34

CENTRAL RAILROAD—FROM SAVAN-

nah to Macon. Distance 190 miles.

This Road is open for the trans-

portation of Passengers and

Freight. Rates of Passage, \$8 00. Freight—

On weight goods generally... 50 cts. per hundred.

On measurement goods.....13 cts. per cubic ft.

On brls. wet (except molasses

and oil).....\$1 50 per barrel.

On brls. dry (except lime).... 80 cts. per barrel.

On iron in pigs or bars, cast-

ings for mills, and unboxed

machinery.....40 cts. per hundred.

On bhds. and pipes of liquor,

not over 120 gallons.....\$5 00 per hhd.

On molasses and oil.....\$6 00 per hhd.

Goods addressed to F. WINTER, Agent, forwarded

free of commission. THOMAS PURSE,

y40 Gen'l Supt. Transportation.

SOUTH CAROLINA RAILROAD.—A

Passenger Train runs daily from Charleston,

on the arrival of the boats from

Wilmington, N. C., in connection

with trains on the Georgia, and Western and Atlan-

tic Railroad—and by stage lines and steamers con-

nects with the Montgomery and West Point, and

the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery

daily.....\$26 50

Fare through from Charleston to Huntsville,

Decatur and Tuscumbia.....22 00

The South Carolina Railroad Co. engage to re-

ceive merchandize consigned to their order, and to

forward the same to any point on their road; and to

the different stations on the Georgia and Western

and Atlantic railroad; and to Montgomery, Ala., by

the West Point and Montgomery Railroad.

JOHN KING, Jr. Agent.

THE WESTERN AND ATLANTIC

Railroad.—This Road is now in operation to

Oothcaloga, a distance of 80 miles, and connects

daily (Sundays excepted) with the Georgia Rail-

road.

From Kingston, on this road, there is a tri-weekly

line of stages, which leave on the arrival of the cars

on Tuesday, Thursday and Saturday for Warren-

ton, Huntsville, Decatur and Tuscumbia, Alabama,

and Memphis, Tennessee.

On the same days, the stages leave Oothcaloga

for Chattanooga, Jasper, Murfreesborough, Knox-

ville and Nashville, Tennessee.

This is the most expeditious route from the east to

any of these places.

CHAS. F. M. GARNETT,

Chief Engineer.

Atlanta, Georgia, April 16th, 1846. ly1

NEW YORK AND PHILADELPHIA RAIL-

road line—direct. Via Newark, New Brun-

swick, Princeton, Trenton,

and Bristol. (Through in

six hours.) Leaving New York daily from the foot

of Liberty street.

Morning line.....9 o'clock a.m.

Mail pilot line.....4 1/2 p.m.

The lines proceed direct to Bristol without change

of cars, and thence by the new steamer, "John Ste-

vens," to Philadelphia.

FARE BETWEEN NEW YORK & PHILA.

First class cars.....\$4 00

Second class cars.....3 00

Passengers will procure their Tickets at the office

foot of Liberty st., where a commodious steamboat

will be in readiness with Baggage-crates on board.

Fifty pounds of baggage will be allowed to each

passenger in this line, and passengers are expressly

prohibited from taking anything as baggage but

their wearing apparel, which will be at the risk of

the owner.

Philadelphia Baggage-crates are conveyed from

city to city, without being opened by the way. Each

train is provided with a car, in which are apart-

ments and dressing rooms expressly for ladies use.

Returning, the lines leave Philadelphia from the

foot of Walnut st. at 9 a.m. and 4 1/2 p.m.

The lines for Baltimore leave Philadelphia daily,

except Sundays, at 8 a.m., 3 1/2 and 10 p.m., and Sun-

days only at 10 p.m.—being a continuation of the

line from New York. 254

PHILADELPHIA AND READING RAILROAD.—Passenger Train Arrangement for 1847.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock A. M.

The Train from Philadelphia arrives at Reading at 12 18 M.

The Train from Pottsville arrives at Reading at 10 43 A. M.

From	Miles	No. 1.	No. 2.
Between Phila. and Pottsville, 92		\$3.50 and \$3.00	
Reading, 58		2.25 and 1.90	
Pottsville, 34		1.40 and 1.30	

Five minutes allowed at Reading; and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets.

PHILADELPHIA, WILMINGTON & BALTIMORE RAILROAD.—1847.

Summer Arrangement.

Philadelphia for Baltimore, 5 a.m. and 10 p.m. Baltimore for Philadelphia, 9 a.m. and 8 p.m.

Connecting with Mail Lines North, South & West.

On Sundays, only the 10 P. M. Lines run.

The Boat Lines, via Newcastle & Frenchtown R.R. Leave Philadelphia at 3 p.m. No line on Sun-Leave Baltimore at 3 p.m. day.

Accommodation Trains between Philadelphia & Wilmington.—Philadelphia to Wilmington, 8 a.m., mail, 12 p.m., 4 p.m., 7 p.m., 10 p.m. mail. Wilmington to Philadelphia, 7 a.m., 1 p.m., mail, 4 p.m., 7 p.m., 12 a.m., night mail.

J. R. TRIMBLE,

Engineer and General Superintendent.

GEORGIA RAILROAD. FROM AUGUSTA to ATLANTA—111 MILES.

AND WESTERN AND ATLANTIC RAILROAD FROM ATLANTA to DALTON, 100 MILES.

This Road in connection with the South Carolina Railroad and Western and Atlantic Railroad now forms a continuous line, 408 miles in length, from Charleston to Dalton (Cross Plains) in Murray county, Ga.—33 miles from Chattanooga, Tenn.

RATES OF FREIGHT.

	Between Augusta and Dalton, 271 miles.	Between Charleston and Dalton, 408 miles.
1st class. Boxes of Hats, Bonnets, and Furniture, per cubic foot.	\$0 18	\$0 28
2d class. Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs and Confectionary, per 100 lbs.	1 00	1 50
3d class. Sugar, Coffee, Liquor, Bagging, Rope, Cotton Yarns, Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow Ware, Castings, Crockery, etc.	0 60	0 85
4th class. Flour, Rice, Bacon, Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc.	0 40	0 65
Cotton, per 100 lbs.	0 45	0 70
Molasses, per hogshead, barrel.	8 50	13 50
Salt per bushel.	2 50	4 25
Salt per Liverpool sack.	0 18	0 25
Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows, etc.	0 65	1 00
German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.		

Goods consigned to S. C. Railroad Co. will be forwarded free of commissions. Freight payable at Dalton.

F. C. ARMS,

Sup't. of Transportation.

Augusta, Ga., July 15, 1847.

RATES OF FREIGHT

On CHANDLER'S Through Transportation Line, between Charleston, S. C., or Savannah, Ga., and Decatur, Ala., and Knoxville, Tenn., and all intermediate points on the Tennessee River, viz:

	Between Macon and Decatur and intermediate points.	Between Augusta and Decatur and intermediate points.	Between Charleston or Savannah and Decatur and intermediate points.
and Knoxville & intermediate points.	0 22 1/2	0 24	0 32
and Chattanooga.	1 54 1 54	1 70 1 70	2 20 2 20
	1 10 1 10	1 30 1 30	1 40 1 40
	0 81 0 81	0 85 0 85	1 05 1 05
	0 86 0 86	0 90 0 90	1 10 1 10
			0 85 0 85
			1 00 1 00
			0 85 0 85
			1 10 1 10

1st class.—Boxes of Hats, Bonnets and Furniture per foot...
2d class.—Boxes and Bales of Dry Goods, Shoes, Saddlery, Glass, Paints, Oils, (in cans) Drugs, Confectionaries, Shovel, Spades, Scythes, Simiths' Bellows, Baskets, Tubs, Sifters, Brooms and other light articles, per 100 lbs...
3d class.—Molasses, Sugar, Coffee, Liquor, Bagging, Rope, Cheese, Tobacco, Leather, Feathers, Hides, Wool, Copper, Tin, Sheet-iron, Nails, Casks or Crates of Crockery, Hardware, and other heavy articles not enumerated below...
4th class.—Flour, Bacon, (in casks or boxes) Pork, Beef, Lard, Tallow, Butter, Beeswax, Bales of Rags, Ginseng, Green and Dried Fruit, (in casks or sacks) Pig-iron and Limestone Oil, per 100 lbs...
Cotton. Per 100 lbs.

Merchandise shipped from any of the northern ports, must be consigned to R. R. AGENT, CHARLESTON, S. C., or R. R. AGENT, SAVANNAH, GA.: and every package must be marked, care of B. CHANDLER, Chattanooga.

Charges will accompany the goods, and be collected by the boats on the Tennessee river, when delivered to the owner or consignee.

No preference in the way of despatch, will be given to any produce intended for their line, but each lot will be sent off as it is received.

The warehouse of the undersigned will be enlarged during the summer, and an apparatus attached for hoisting or lowering freight to the river, without soil or injury.

He will have a train of wagons under his entire control, sufficient to conduct the fall business with great despatch.

B. CHANDLER.

Chattanooga, Tenn., July 1, 1847.

REGULAR RATES BETWEEN ATLANTA AND CHARLESTON OR SAVANNAH.

First class, per foot.	\$0 20
Second class, per 100 lbs.	1 20
Cotton, per 100 lbs.	0 55
Third class, per 100 lbs.	0 60
Fourth class, per 100 lbs.	0 50

FRANKLIN HOUSE,

No. 105 Chestnut Street, Philadelphia.

The undersigned takes the liberty of calling the attention of the readers of the Journal to the fact that the Office is removed from New York to the FRANKLIN HOUSE, Philadelphia, where he will be always pleased to meet and greet them. They will not only find a pleasant Reading Room, with lots of foreign periodicals, treating of Railroads and Machinery, but they will always find good-sized and airy rooms—clean beds—and a well supplied table. If they would have further proof of this, they have only to call, and judge for themselves, and much oblige the proprietor,

D. K. MINOR.

LOCOMOTIVE AND CAR AXLES.

The Subscribers are now prepared to receive orders for the well known and approved Reading Locomotive and Car Axles—drawn to any required pattern from Bloom Iron only. Address

SAML KIMBER & CO.,

Willow Street Wharf,

Philadelphia, Pa.

ENGINEERS and MACHINISTS.

THOMAS PROSSER, 28 Platt St. N. Y. (See Adv.)

J. F. WINSLOW, Albany Iron and Nail Works Troy, N. Y. (See Adv.)

TROY IRON AND NAIL FACTORY, H. Burden, Agent. (See Adv.)

ROGERS, KETCHUM & GROSVENOR, Paterson, N. J. (See Adv.)

S. VAIL, Speedwell Iron Works, near Morristown, N. J. (See Adv.)

NORRIS, BROTHERS, Philadelphia Pa. (See Adv.)

FRENCH & BAIRD, Philadelphia. (See Adv.)

NEWCASTLE MANUFACTURING COMPANY, Newcastle, Del. (See Adv.)

ROSS WINANS, Baltimore, Md.

CYRUS ALGER & Co., South Boston Iron Co.

SETH ADAMS, Engineer, South Boston.

STILLMAN, ALLEN & Co., N. Y.

JAS. P. ALLAIRE, N. Y.

PHENIX FOUNDRY, N. Y.

ANDREW MENEELY, West Troy.

JOHN F. STARR, Philadelphia, Pa.

MERRICK & TOWNE, do.

HINCKLEY & DRURY, Boston.

C. C. ALGER, Stockbridge Iron Works Stockbridge, Mass.

AMERICAN RAILROAD JOURNAL.

Office at the FRANKLIN HOUSE,

105 Chestnut Street,

PHILADELPHIA, PA.

This is the only periodical having a general circulation throughout the Union, in which all matters connected with public works can be brought to the notice of all persons in any way interested in these undertakings. Hence it offers peculiar advantages for advertising times of departure, rates of fare and freight, improvements in machinery, materials, as iron, timber, stone, cement, etc. It is also the best medium for advertising contracts, and placing the merits of new undertakings fairly before the public.

TERMS.—Five Dollars a year, in advance.

RATES OF ADVERTISING.

One page per annum.	\$125 00
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One column " " " "	3 00
One square " " " "	1 00
Professional notices per annum.	5 00